

## 1.5 WARRANTY INFORMATION

This Acroamatics product is guaranteed as indicated by the warranty below.

### ACROAMATICS, INC. PRODUCT WARRANTY

Acroamatics, Inc. warrants all equipment manufactured by it to be free from defects in design, materials, and workmanship for a period of twelve months from the date of acceptance by the Customer. Acroamatics, Inc. will repair without charge all parts of said products that are returned to the factory within the warranty period, provided that the equipment is returned prepaid to the factory within twelve months after the date of acceptance, or that the defect is reported, in writing, within twelve months after the date of acceptance, and provided that inspection by Acroamatics, Inc. discloses that the defects are as above specified. Equipment found to be defective will, at Acroamatics, Inc.'s option, be replaced or repaired, and returned via surface transportation, prepaid. With the exception of the twelve-month warranty set forth above, Acroamatics, Inc. makes no express warranties, no warranties of merchantability, and no warranties that extend beyond the description on the face hereof. In no event will Acroamatics, Inc. be liable for consequential damages of any kind. For products sold to the United States Government, under procurements governed by the Federal Acquisition Regulations (FAR), any part of this PRODUCT WARRANTY that conflicts with an applicable FAR clause, incorporated actually or by reference in the purchase contract, shall be supplanted by the FAR clause.

## 1.6 SHIPPING AND HANDLING PRECAUTIONS

The Acroamatics Model 2650P MBS requires only routine shipping and handling procedures. Acroamatics products can be shipped by commercial shippers using routine procedures, and require no unusual shipping precautions. Retain original shipping containers for re-use in the event of return or relocation of equipment.

### CAUTION

Failure to observe the following procedures may result in damage to the equipment.

Shipping and handling precautions for the LRU cards in the MBS include taking the usual ESD precautions for circuit cards. See the card-handling instructions in Section 4. Cards must be handled only by personnel who are properly grounded. Place the cards in ESD-safe bags when they are not inside the unit. Cards must be shipped in original containers or the equivalent, and should be packed as for shipping when they are to be stored for long periods.

Although the unit is rugged, handle it gently and do not force it into a rack if there is resistance. To return or relocate the MBS, wrap or bag it in plastic film. Surround the unit with at least 1 1/2 inches of non-ESD foam packing material top and bottom and 3 inches of foam for front, sides, and back. Place it in its original packing materials or the equivalent. The box Acroamatics uses has ample strength for the weight of the unit, as well as clearance for foam. If shipping in a container other than the original, mark it "FRAGILE" and "THIS SIDE UP."

To return a card to the factory for repair or modification, include as much information as possible describing the failure mode or the modification/update you want. Using proper ESD procedures, pack each card for return by wrapping it individually in an antistatic bag. Place each card into the shipping container, protecting it with the foam packing, and secure the container with reinforced tape. Provide the name and phone number of a technical contact our technical staff can talk to regarding your return. Call Acroamatics at (805) 967-9909 to get an RMA number before returning any equipment to the factory. Include the RMA number in any correspondence or shipments to Acroamatics. For environmental and other requirements, see 1.4, SPECIFICATIONS.

## 1.7 STORAGE DATA

Storage of the MBS requires only routine procedures.

### CAUTION

Failure to observe proper storage procedures may result in damage to the equipment.

Store the unit in a clean, dry, dust-free place. For long-term storage, place the unit in its original shipping materials or the equivalent as for shipping (see 1.6, SHIPPING AND HANDLING PRECAUTIONS). Protect the unit from high humidity and extremes of temperature, preferably in an air-conditioned facility. For temporary storage not in a shipping container, protect the metal surfaces from damage by separating stacked units with a sheet of corrugated cardboard or other protective material. Do not place heavy objects on the sheet metal top or bottom covers. Protect painted surfaces, especially the front panel corners, from damage. Cover the front panel with bubble-wrap or poly-foam taped to the chassis. Always install protective plastic BNC covers on the rear-panel BNCs when storing the unit. For environmental and other requirements, see 1.4, SPECIFICATIONS.

## 1.8 SAFETY

### SAFETY PRECAUTIONS

The Acroamatics 2650P MBS presents no unusual health or safety hazards. The MBS does not include toxic or radioactive materials, does not generate dangerously high levels of heat or electromagnetic radiation, and does not release poisonous or explosive gases or deplete the oxygen in the atmosphere.

### WARNING

Take normal precautions when performing tasks inside the chassis. Do not touch the internal power-source wiring or the power supply with bare hands or metal tools.

**WARNING**

The standard MBS is designed to operate from a power source of either 104 - 125 or 175 - 264 VAC. (The unit sets itself automatically to the correct input voltage.) Some units may operate from even higher supplies. Special caution is required for units operating from higher voltages. Failure to observe high-voltage precautions may result in personnel injury or death. Determine if the unit operates on a power source greater than 104 - 125VAC. If the power source is higher than 104 - 125VAC, take normal precautions for high voltages. Voltages used by the MBS are reduced substantially below the power source voltage by the internal power supply. Personnel performing any tasks that bring them into contact with the interior of the chassis must be properly grounded to prevent ESD damage to equipment, but this precaution does not imply any human hazard.



## SECTION 2 INSTALLATION

### 2.1 GENERAL

This section contains systems level installation information about the Acroamatics Multi-channel Bit Synchronizer. The following paragraphs contain instructions on handling individual PCI cards when you remove or install them. The full-slot cards are seated or removed just as any PCI card. Remove or attach mezzanine cards per the assembly drawing in Chapter Six of the respective card technical manual.

### 2.2 AVOID ESD DAMAGE

Read and understand the following instructions before you unpack or handle any cards. You can inadvertently damage sensitive electronic circuits simply by touching them. Electrostatic charge that has accumulated on your body discharges through the card circuits. Static charges are created when non-conductive materials are separated, such as when plastic bags are picked up or opened, when friction occurs between articles of synthetic clothing, or when plastic soled shoes separate from carpeting. To prevent damage to your equipment, you must follow the ESD protection procedures below.

- Provide enough room to work on the equipment. Clear the work site of any unnecessary materials that naturally built up electrostatic charge, such as foam packaging, foam cups, cellophane wrapper, and similar materials.
- Do not remove the boards from their antistatic packaging until the moment that you are ready to install them.
- Use an ESD kit when handling the boards. If an emergency arises and an ESD kit is not available, follow the emergency procedures below.

#### 2.2.1 Emergency ESD Procedures

When an ESD kit is not available, use these procedures to help ensure that your body and the equipment have the same electrostatic potential. These procedures are not a substitute for the use of an ESD kit.

- Before touching any boards to be placed inside or removed from equipment, firmly touch an unpainted surface of the equipment.
- Before removing any board from its antistatic bag, place one hand firmly on an unpainted surface of the chassis, and while one hand is still on the chassis, pick up the board while it is still sealed in the antistatic bag. Once you have done this, do not move around the room or contact other objects or personnel until you have finished handling the board.
- Once you have removed a board from its antistatic bag, always handle the board by the edges. Avoid touching components and circuits on a printed circuit board.

- If you must move around the room or touch other objects before you have finished handling the board, place the board back in the antistatic bag. When you need to remove it again from the bag, repeat the proper ESD procedures.

### **2.3 FACTORY RETURN**

When you return a card to the factory for repair or modification, include as much information as possible describing the failure mode or the modification/update you want.

Using proper ESD procedures, pack each card for return by wrapping it individually in an anti-static bag. Place each card into the shipping container, protecting it with the foam packing, and secure the container with reinforced tape. Provide the name and phone number of a technical contact we can talk to regarding your return.

*Call Acroamatics at (805) 967-9909 to get an RMA number before returning any equipment to the factory, and include the RMA number in any correspondence or shipments to Acroamatics.*

**2.4 CONNECTORS**

The following pages contain tables of information on all the connections into and out of the MBS chassis.

TABLE 2-5. MATING CONNECTOR LIST FOR MODEL 2650P 33000218		
CONN.	FUNCTION	MATING CONNECTOR
J01	BSYN-1 SE IN 1	BNC
J13	BSYN-1 SE IN 2	BNC
J25	BSYN-1 SE IN 3	BNC
J37	BSYN-1 DIFF IN 4	TWINAX
J49	BSYN-1 + CLK OUT	BNC/TWINAX *
J61	BSYN-1 + DAT OUT	BNC/TWINAX *
J73	BSYN-1 + EXT CLK IN	BNC/TWINAX *
J85	BSYN-1 + EXT DAT IN	BNC/TWINAX *
J97	BSYN-1 + TAPE OUT	BNC
J109	BSYN-1 + CODE	BNC
J121	BSYN-1 + CLK X2	BNC
J133	BSYN-1 + RNRZ	BNC
J147	BSYN-1 AUX	N.C.
J02	BSYN-2 SE IN 1	BNC
J14	BSYN-2 SE IN 2	BNC
J26	BSYN-2 SE IN 3	BNC
J38	BSYN-2 DIFF IN 4	TWINAX
J50	BSYN-2 + CLK OUT	BNC/TWINAX *
J62	BSYN-2 + DAT OUT	BNC/TWINAX *
J74	BSYN-2 + EXT CLK IN	BNC/TWINAX *
J86	BSYN-2 + EXT DAT IN	BNC/TWINAX *
J98	BSYN-2 + TAPE OUT	BNC
J110	BSYN-2 + CODE	BNC
J122	BSYN-2 + CLK X2	BNC
J134	BSYN-2 + RNRZ	BNC
J148	BSYN-2 AUX	N.C.
J03	BSYN-3 SE IN 1	BNC
J15	BSYN-3 SE IN 2	BNC
J27	BSYN-3 SE IN 3	BNC
J39	BSYN-3 DIFF IN 4	TWINAX
J51	BSYN-3 + CLK OUT	BNC/TWINAX *
J63	BSYN-3 + DAT OUT	BNC/TWINAX *
J75	BSYN-3 + EXT CLK IN	BNC/TWINAX *
J87	BSYN-3 + EXT DAT IN	BNC/TWINAX *
J99	BSYN-3 + TAPE OUT	BNC
J111	BSYN-3 + CODE	BNC
J123	BSYN-3 + CLK X2	BNC
J135	BSYN-3 + RNRZ	BNC
J149	BSYN-3 AUX	N.C.
		TWINAX * Refers to an OPTION

<b>TABLE 2-5.(cont.) MATING CONNECTOR LIST FOR MODEL 2650P 33000218</b>		
<b>CONN.</b>	<b>FUNCTION</b>	<b>MATING CONNECTOR</b>
<b>J04</b>	BSYN-4 SE IN 1	BNC
<b>J16</b>	BSYN-4 SE IN 2	BNC
<b>J28</b>	BSYN-4 SE IN 3	BNC
<b>J40</b>	BSYN-4 DIFF IN 4	TWINAX
<b>J52</b>	BSYN-4 + CLK OUT	BNC/TWINAX *
<b>J64</b>	BSYN-4 + DAT OUT	BNC/TWINAX *
<b>J76</b>	BSYN-4 + EXT CLK IN	BNC/TWINAX *
<b>J88</b>	BSYN-4 + EXT DAT IN	BNC/TWINAX *
<b>J100</b>	BSYN-4 + TAPE OUT	BNC
<b>J112</b>	BSYN-4 + CODE	BNC
<b>J124</b>	BSYN-4 + CLK X2	BNC
<b>J136</b>	BSYN-4 + RNRZ	BNC
<b>J150</b>	BSYN-4 AUX	N.C.
<b>J05</b>	BSYN-5 SE IN 1	BNC
<b>J17</b>	BSYN-5 SE IN 2	BNC
<b>J29</b>	BSYN-5 SE IN 3	BNC
<b>J41</b>	BSYN-5 DIFF IN 4	TWINAX
<b>J53</b>	BSYN-5 + CLK OUT	BNC/TWINAX *
<b>J65</b>	BSYN-5 + DAT OUT	BNC/TWINAX *
<b>J77</b>	BSYN-5 + EXT CLK IN	BNC/TWINAX *
<b>J89</b>	BSYN-5 + EXT DAT IN	BNC/TWINAX *
<b>J101</b>	BSYN-5 + TAPE OUT	BNC
<b>J113</b>	BSYN-5 + CODE	BNC
<b>J125</b>	BSYN-5 + CLK X2	BNC
<b>J137</b>	BSYN-5 + RNRZ	BNC
<b>J151</b>	BSYN-5 AUX	N.C.
<b>J06</b>	BSYN-6 SE IN 1	BNC
<b>J18</b>	BSYN-6 SE IN 2	BNC
<b>J30</b>	BSYN-6 SE IN 3	BNC
<b>J42</b>	BSYN-6 DIFF IN 4	TWINAX
<b>J54</b>	BSYN-6 + CLK OUT	BNC/TWINAX *
<b>J66</b>	BSYN-6 + DAT OUT	BNC/TWINAX *
<b>J78</b>	BSYN-6 + EXT CLK IN	BNC/TWINAX *
<b>J90</b>	BSYN-6 + EXT DAT IN	BNC/TWINAX *
<b>J102</b>	BSYN-6 + TAPE OUT	BNC
<b>J114</b>	BSYN-6 + CODE	BNC
<b>J126</b>	BSYN-6 + CLK X2	BNC
<b>J138</b>	BSYN-6 + RNRZ	BNC
<b>J152</b>	BSYN-6 AUX	N.C.
		TWINAX * Refers to an OPTION

<b>TABLE 2-5.(cont) MATING CONNECTOR LIST FOR MODEL 2650P 33000218</b>		
<b>CONN.</b>	<b>FUNCTION</b>	<b>MATING CONNECTOR</b>
<b>J07</b>	BSYN-7 SE IN 1	BNC
<b>J19</b>	BSYN-7 SE IN 2	BNC
<b>J31</b>	BSYN-7 SE IN 3	BNC
<b>J43</b>	BSYN-7 DIFF IN 4	TWINAX
<b>J55</b>	BSYN-7 + CLK OUT	BNC/TWINAX *
<b>J67</b>	BSYN-7 + DAT OUT	BNC/TWINAX *
<b>J79</b>	BSYN-7 + EXT CLK IN	BNC/TWINAX *
<b>J91</b>	BSYN-7 + EXT DAT IN	BNC/TWINAX *
<b>J103</b>	BSYN-7 + TAPE OUT	BNC
<b>J115</b>	BSYN-7 + CODE	BNC
<b>J127</b>	BSYN-7 + CLK X2	BNC
<b>J139</b>	BSYN-7 + RNRZ	BNC
<b>J153</b>	BSYN-7 AUX	N.C.
<b>J08</b>	BSYN-8 SE IN 1	BNC
<b>J20</b>	BSYN-8 SE IN 2	BNC
<b>J32</b>	BSYN-8 SE IN 3	BNC
<b>J44</b>	BSYN-8 DIFF IN 4	TWINAX
<b>J56</b>	BSYN-8 + CLK OUT	BNC/TWINAX *
<b>J68</b>	BSYN-8 + DAT OUT	BNC/TWINAX *
<b>J80</b>	BSYN-8 + EXT CLK IN	BNC/TWINAX *
<b>J92</b>	BSYN-8 + EXT DAT IN	BNC/TWINAX *
<b>J104</b>	BSYN-8 + TAPE OUT	BNC
<b>J116</b>	BSYN-8 + CODE	BNC
<b>J128</b>	BSYN-8 + CLK X2	BNC
<b>J140</b>	BSYN-8 + RNRZ	BNC
<b>J154</b>	BSYN-8 AUX	N.C.
<b>J09</b>	BSYN-9 SE IN 1	BNC
<b>J21</b>	BSYN-9 SE IN 2	BNC
<b>J33</b>	BSYN-9 SE IN 3	BNC
<b>J45</b>	BSYN-9 DIFF IN 4	TWINAX
<b>J57</b>	BSYN-9 + CLK OUT	BNC/TWINAX *
<b>J69</b>	BSYN-9 + DAT OUT	BNC/TWINAX *
<b>J81</b>	BSYN-9 + EXT CLK IN	BNC/TWINAX *
<b>J93</b>	BSYN-9 + EXT DAT IN	BNC/TWINAX *
<b>J105</b>	BSYN-9 + TAPE OUT	BNC
<b>J117</b>	BSYN-9 + CODE	BNC
<b>J129</b>	BSYN-9 + CLK X2	BNC
<b>J141</b>	BSYN-9 + RNRZ	BNC
<b>J155</b>	BSYN-9 AUX	N.C.
		TWINAX * Refers to an OPTION

<b>TABLE 2-5.(cont) MATING CONNECTOR LIST FOR MODEL 2650P 33000218</b>		
<b>CONN.</b>	<b>FUNCTION</b>	<b>MATING CONNECTOR</b>
<b>J10</b>	BSYN-10 SE IN 1	BNC
<b>J22</b>	BSYN-10 SE IN 2	BNC
<b>J34</b>	BSYN-10 SE IN 3	BNC
<b>J46</b>	BSYN-10 DIFF IN 4	TWINAX
<b>J58</b>	BSYN-10 + CLK OUT	BNC/TWINAX *
<b>J70</b>	BSYN-10 + DAT OUT	BNC/TWINAX *
<b>J82</b>	BSYN-10 + EXT CLK IN	BNC/TWINAX *
<b>J94</b>	BSYN-10 + EXT DAT IN	BNC/TWINAX *
<b>J106</b>	BSYN-10 + TAPE OUT	BNC
<b>J118</b>	BSYN-10 + CODE	BNC
<b>J130</b>	BSYN-10 + CLK X2	BNC
<b>J142</b>	BSYN-10 + RNRZ	BNC
<b>J156</b>	BSYN-10 AUX	N.C.
<b>J11</b>	BSYN-11 SE IN 1	BNC
<b>J23</b>	BSYN-11 SE IN 2	BNC
<b>J35</b>	BSYN-11 SE IN 3	BNC
<b>J47</b>	BSYN-11 DIFF IN 4	TWINAX
<b>J59</b>	BSYN-11 + CLK OUT	BNC/TWINAX *
<b>J71</b>	BSYN-11 + DAT OUT	BNC/TWINAX *
<b>J83</b>	BSYN-11 + EXT CLK IN	BNC/TWINAX *
<b>J95</b>	BSYN-11 + EXT DAT IN	BNC/TWINAX *
<b>J107</b>	BSYN-11 + TAPE OUT	BNC
<b>J119</b>	BSYN-11 + CODE	BNC
<b>J131</b>	BSYN-11 + CLK X2	BNC
<b>J143</b>	BSYN-11 + RNRZ	BNC
<b>J157</b>	BSYN-11 AUX	N.C.
<b>J12</b>	BSYN-12 SE IN 1	BNC
<b>J24</b>	BSYN-12 SE IN 2	BNC
<b>J36</b>	BSYN-12 SE IN 3	BNC
<b>J48</b>	BSYN-12 DIFF IN 4	TWINAX
<b>J60</b>	BSYN-12 + CLK OUT	BNC/TWINAX *
<b>J72</b>	BSYN-12 + DAT OUT	BNC/TWINAX *
<b>J84</b>	BSYN-12 + EXT CLK IN	BNC/TWINAX *
<b>J96</b>	BSYN-12 + EXT DAT IN	BNC/TWINAX *
<b>J108</b>	BSYN-12 + TAPE OUT	BNC
<b>J120</b>	BSYN-12 + CODE	BNC
<b>J132</b>	BSYN-12 + CLK X2	BNC
<b>J144</b>	BSYN-12 + RNRZ	BNC
<b>J158</b>	BSYN-12 AUX	N.C.
<b>J145</b>	COM-1	DB-9S
<b>J146</b>	E-NET 10_100-T	RJ-45
		TWINAX * Refers to an OPTION

<b>TABLE 2-6.</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J01</b> <b>BIT SYNC-1 SINGLE ENDED INPUT 1</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4BSINP1	Single Ended Input 1
<b>02</b>	GND	Ground

<b>TABLE 2-7.</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J13</b> <b>BIT SYNC-1 SINGLE ENDED INPUT 2</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4BSINP2	Single Ended Input 2
<b>02</b>	GND	Ground

<b>TABLE 2-8.</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J25</b> <b>BIT SYNC-1 SINGLE ENDED INPUT 3</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4BSINP3	Single Ended Input 3
<b>02</b>	GND	Ground

<b>TABLE 2-9.</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J37</b> <b>BIT SYNC-1 DIFFERENTIAL INPUT 4</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4DIFIN4	+ Differential Input 4
<b>02</b>	9DIFIN4	- Differential Input 4
<b>03</b>	GND	Ground

<b>TABLE 2-10.</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J49</b> <b>BIT SYNC-1 + TTL CLOCK OUTPUT</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4PCMCLK	+ TTL Clock Output
<b>02</b>	GND	Ground

<b>TABLE 2-10. (option)</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J49</b> <b>BIT SYNC-1 RS-422 CLOCK OUTPUT</b>		
PIN	SIGNAL	FUNCTION
<b>01</b>	4PCMCLK	+ RS-422 Clock Output
<b>02</b>	9PCMCLK	- RS-422 Clock Output
<b>03</b>	GND	Ground

<b>TABLE 2-11.</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J61</b> <b>BIT SYNC-1 + TTL DATA OUTPUT</b>		
PIN	SIGNAL	FUNCTION
<b>01</b>	4PCMDAT	+ TTL Data Output
<b>02</b>	GND	Ground

<b>TABLE 2-11. (option)</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J61</b> <b>BIT SYNC-1 RS-422 DATA OUTPUT</b>		
PIN	SIGNAL	FUNCTION
<b>01</b>	4PCMDAT	+ RS-422 Data Output
<b>02</b>	9PCMDAT	- RS-422 Data Output
<b>03</b>	GND	Ground

<b>TABLE 2-12.</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J73</b> <b>BIT SYNC-1 + TTL EXTERNAL CLOCK INPUT</b>		
PIN	SIGNAL	FUNCTION
<b>01</b>	4EXTCLK	+ TTL External Clock Input
<b>02</b>	GND	Ground

<b>TABLE 2-12. (option)</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J73</b> <b>BIT SYNC-1 RS-422 CLOCK INPUT</b>		
PIN	SIGNAL	FUNCTION
<b>01</b>	4EXTCLK	+ RS-422 Clock Input
<b>02</b>	9EXTCLK	- RS-422 Clock Input
<b>03</b>	GND	Ground

<b>TABLE 2-13.</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J85</b> <b>BIT SYNC-1 + TTL EXTERNAL DATA INPUT</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	9EXTDAT	+ TTL External Data Input
<b>02</b>	GND	Ground

<b>TABLE 2-13. (option)</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J85</b> <b>BIT SYNC-1 RS-422 DATA INPUT</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4EXTDAT	+ RS-422 Data Input
<b>02</b>	9EXTDAT	- RS-422 Data Input
<b>03</b>	GND	Ground

<b>TABLE 2-14.</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J97</b> <b>BIT SYNC-1 + BI-POLAR TAPE OUTPUT</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4TAPOUT	+ Bi Polar Tape Output
<b>02</b>	GND	Ground

<b>TABLE 2-15.</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J109</b> <b>BIT SYNC-1 + TTL CODE OUTPUT</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4CODEOT	+ TTL Code Output
<b>02</b>	GND	Ground

<b>TABLE 2-16.</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J121</b> <b>BIT SYNC-1 + TTL X2 CLOCK OUTPUT</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4CLCKX2	+ TTL X2 Clock Output
<b>02</b>	GND	Ground

<b>TABLE 2-17.</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J133</b> <b>BIT SYNC-1 + TTL RANDOMIZE OUTPUT</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4RNRZDT	+ TTL Randomize Output
<b>02</b>	GND	Ground

<b>TABLE 2-18.</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J147</b> <b>BIT SYNC-1 AUX</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	AUX	N.C.
<b>02</b>	GND	Ground

<b>TABLE 2-19.</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J02</b> <b>BIT SYNC-2 SINGLE ENDED INPUT 1</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4BSINP1	Single Ended Input 1
<b>02</b>	GND	Ground

<b>TABLE 2-20.</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J14</b> <b>BIT SYNC-2 SINGLE ENDED INPUT 2</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4BSINP2	Single Ended Input 2
<b>02</b>	GND	Ground

<b>TABLE 2-21.</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J26</b> <b>BIT SYNC-2 SINGLE ENDED INPUT 3</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4BSINP3	Single Ended Input 3
<b>02</b>	GND	Ground

<b>TABLE 2-22.</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J38</b> <b>BIT SYNC-2 DIFFERENTIAL INPUT 4</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4DIFIN4	+ Differential Input 4
<b>02</b>	9DIFIN4	- Differential Input 4
<b>03</b>	GND	Ground

<b>TABLE 2-23.</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J50</b> <b>BIT SYNC-2 + TTL CLOCK OUTPUT</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4PCMCLK	+ TTL Clock Output
<b>02</b>	GND	Ground

<b>TABLE 2-23. (option)</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J50</b> <b>BIT SYNC-2 RS-422 CLOCK OUTPUT</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4PCMCLK	+ RS-422 Clock Output
<b>02</b>	9PCMCLK	- RS-422 Clock Output
<b>03</b>	GND	Ground

<b>TABLE 2-24.</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J62</b> <b>BIT SYNC-2 + TTL DATA OUTPUT</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4PCMDAT	+ TTL Data Output
<b>02</b>	GND	Ground

<b>TABLE 2-24. (option)</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J62</b> <b>BIT SYNC-2 RS-422 DATA OUTPUT</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4PCMDAT	+ RS-422 Data Output
<b>02</b>	9PCMDAT	- RS-422 Data Output
<b>03</b>	GND	Ground

**TABLE 2-25.**  
**MODEL 2650P REAR CHASSIS PANEL CONNECTOR J74**  
**BIT SYNC-2 + TTL EXTERNAL CLOCK INPUT**

PIN	SIGNAL	FUNCTION
<b>01</b>	4EXTCLK	+ TTL External Clock Input
<b>02</b>	GND	Ground

**TABLE 2-25. (option)**  
**MODEL 2650P REAR CHASSIS PANEL CONNECTOR J74**  
**BIT SYNC-2 RS-422 CLOCK INPUT**

PIN	SIGNAL	FUNCTION
<b>01</b>	4EXTCLK	+ RS-422 Clock Input
<b>02</b>	9EXTCLK	- RS-422 Clock Input
<b>03</b>	GND	Ground

**TABLE 2-26.**  
**MODEL 2650P REAR CHASSIS PANEL CONNECTOR J86**  
**BIT SYNC-2 + TTL EXTERNAL DATA INPUT**

PIN	SIGNAL	FUNCTION
<b>01</b>	9EXTDAT	+ TTL External Data Input
<b>02</b>	GND	Ground

**TABLE 2-26. (option)**  
**MODEL 2650P REAR CHASSIS PANEL CONNECTOR J86**  
**BIT SYNC-2 RS-422 DATA INPUT**

PIN	SIGNAL	FUNCTION
<b>01</b>	4EXTDAT	+ RS-422 Data Input
<b>02</b>	9EXTDAT	- RS-422 Data Input
<b>03</b>	GND	Ground

**TABLE 2-27.**  
**MODEL 2650P REAR CHASSIS PANEL CONNECTOR J98**  
**BIT SYNC-2 + BI POLAR TAPE OUTPUT**

PIN	SIGNAL	FUNCTION
<b>01</b>	4TAPOUT	+ Bi Polar Tape Output
<b>02</b>	GND	Ground

<b>TABLE 2-28.</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J110</b> <b>BIT SYNC-2 + TTL CODE OUTPUT</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4CODEOT	+ TTL Code Output
<b>02</b>	GND	Ground

<b>TABLE 2-29.</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J122</b> <b>BIT SYNC-2 + TTL X2 CLOCK OUTPUT</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4CLCKX2	+ TTL X2 Clock Output
<b>02</b>	GND	Ground

<b>TABLE 2-30.</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J134</b> <b>BIT SYNC-2 + TTL RANDOMIZE OUTPUT</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4RNRZDT	+ TTL Randomize Output
<b>02</b>	GND	Ground

<b>TABLE 2-31.</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J148</b> <b>BIT SYNC-2 AUX</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	AUX	N.C.
<b>02</b>	GND	Ground

<b>TABLE 2-32.</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J03</b> <b>BIT SYNC-3 SINGLE ENDED INPUT 1</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4BSINP1	Single Ended Input 1
<b>02</b>	GND	Ground

<b>TABLE 2-33.</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J15</b> <b>BIT SYNC-3 SINGLE ENDED INPUT 2</b>		
PIN	SIGNAL	FUNCTION
<b>01</b>	4BSINP2	Single Ended Input 2
<b>02</b>	GND	Ground

<b>TABLE 2-34</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J27</b> <b>BIT SYNC-3 SINGLE ENDED INPUT 3</b>		
PIN	SIGNAL	FUNCTION
<b>01</b>	4BSINP3	Single Ended Input 3
<b>02</b>	GND	Ground

<b>TABLE 2-35.</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J39</b> <b>BIT SYNC-3 DIFFERENTIAL INPUT 4</b>		
PIN	SIGNAL	FUNCTION
<b>01</b>	4DIFIN4	+ Differential Input 4
<b>02</b>	9DIFIN4	- Differential Input 4
<b>03</b>	GND	Ground

<b>TABLE 2-36.</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J51</b> <b>BIT SYNC-3 + TTL CLOCK OUTPUT</b>		
PIN	SIGNAL	FUNCTION
<b>01</b>	4PCMCLK	+ TTL Clock Output
<b>02</b>	GND	Ground

<b>TABLE 2-36. (option)</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J51</b> <b>BIT SYNC-1 RS-422 CLOCK OUTPUT</b>		
PIN	SIGNAL	FUNCTION
<b>01</b>	4PCMCLK	+ RS-422 Clock Output
<b>02</b>	9PCMCLK	- RS-422 Clock Output
<b>03</b>	GND	Ground

<b>TABLE 2-37.</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J63</b> <b>BIT SYNC-3 + TTL DATA OUTPUT</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4PCMDAT	+ TTL Data Output
<b>02</b>	GND	Ground

<b>TABLE 2-37. (option)</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J63</b> <b>BIT SYNC-3 RS-422 DATA OUTPUT</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4PCMDAT	+ RS-422 Data Output
<b>02</b>	9PCMDAT	- RS-422 Data Output
<b>03</b>	GND	Ground

<b>TABLE 2-38.</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J75</b> <b>BIT SYNC-3 + TTL EXTERNAL CLOCK INPUT</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4EXTCLK	+ TTL External Clock Input
<b>02</b>	GND	Ground

<b>TABLE 2-38. (option)</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J75</b> <b>BIT SYNC-3 RS-422 CLOCK INPUT</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4PCMDAT	+ RS-422 Clock Input
<b>02</b>	9PCMCLK	- RS-422 Clock Input
<b>03</b>	GND	Ground

<b>TABLE 2-39.</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J87</b> <b>BIT SYNC-3 + TTL EXTERNAL DATA INPUT</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	9EXTDAT	+ TTL External Data Input
<b>02</b>	GND	Ground

**TABLE 2-39. (option)**  
**MODEL 2650P REAR CHASSIS PANEL CONNECTOR J87**  
**BIT SYNC-1 RS-422 DATA INPUT**

PIN	SIGNAL	FUNCTION
<b>01</b>	4PCMDAT	+ RS-422 Data Input
<b>02</b>	9PCMDAT	- RS-422 Data Input
<b>03</b>	GND	Ground

**TABLE 2-40.**  
**MODEL 2650P REAR CHASSIS PANEL CONNECTOR J99**  
**BIT SYNC-3 + BI POLAR TAPE OUTPUT**

PIN	SIGNAL	FUNCTION
<b>01</b>	4TAPOUT	+ Bi Polar Tape Output
<b>02</b>	GND	Ground

**TABLE 2-41.**  
**MODEL 2650P REAR CHASSIS PANEL CONNECTOR J111**  
**BIT SYNC-3 + TTL CODE OUTPUT**

PIN	SIGNAL	FUNCTION
<b>01</b>	4CODEOT	+ TTL Code Output
<b>02</b>	GND	Ground

**TABLE 2-42.**  
**MODEL 2650P REAR CHASSIS PANEL CONNECTOR J123**  
**BIT SYNC-3 + TTL X2 CLOCK OUTPUT**

PIN	SIGNAL	FUNCTION
<b>01</b>	4CLKX2	+ TTL X2 Clock Output
<b>02</b>	GND	Ground

**TABLE 2-43.**  
**MODEL 2650P REAR CHASSIS PANEL CONNECTOR J135**  
**BIT SYNC-3 + TTL RANDOMIZE OUTPUT**

PIN	SIGNAL	FUNCTION
<b>01</b>	4RNRZDT	+ TTL Randomize Output
<b>02</b>	GND	Ground

<b>TABLE 2-44.</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J149</b> <b>BIT SYNC-3 AUX</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	AUX	N.C.
<b>02</b>	GND	Ground

<b>TABLE 2-45.</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J04</b> <b>BIT SYNC-4 SINGLE ENDED INPUT 1</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4BSINP1	Single Ended Input 1
<b>02</b>	GND	Ground

<b>TABLE 2-46</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J16</b> <b>BIT SYNC-4 SINGLE ENDED INPUT 2</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4BSINP2	Single Ended Input 2
<b>02</b>	GND	Ground

<b>TABLE 2-47.</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J28</b> <b>BIT SYNC-4 SINGLE ENDED INPUT 3</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4BSINP3	Single Ended Input 3
<b>02</b>	GND	Ground

<b>TABLE 2-48.</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J40</b> <b>BIT SYNC-4 DIFFERENTIAL INPUT 4</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4DIFIN4	+ Differential Input 4
<b>02</b>	9DIFIN4	- Differential Input 4
<b>03</b>	GND	Ground

TABLE 2-49. MODEL 2650P REAR CHASSIS PANEL CONNECTOR J52 BIT SYNC-4 + TTL CLOCK OUTPUT		
PIN	SIGNAL	FUNCTION
01	4PCMCLK	+ TTL Clock Output
02	GND	Ground

TABLE 2-49. (option) MODEL 2650P REAR CHASSIS PANEL CONNECTOR J52 BIT SYNC-4 RS-422 CLOCK OUTPUT		
PIN	SIGNAL	FUNCTION
01	4PCMCLK	+ RS-422 Clock Output
02	9PCMCLK	- RS-422 Clock Output
03	GND	Ground

TABLE 2-50. MODEL 2650P REAR CHASSIS PANEL CONNECTOR J64 BIT SYNC-4 + TTL DATA OUTPUT		
PIN	SIGNAL	FUNCTION
01	4PCMDAT	+ TTL Data Output
02	GND	Ground

TABLE 2-50. (option) MODEL 2650P REAR CHASSIS PANEL CONNECTOR J64 BIT SYNC-4 RS-422 DATA OUTPUT		
PIN	SIGNAL	FUNCTION
01	4PCMDAT	+ RS-422 Data Output
02	9PCMDAT	- RS-422 Data Output
03	GND	Ground

TABLE 2-51. MODEL 2650P REAR CHASSIS PANEL CONNECTOR J76 BIT SYNC-4 + TTL EXTERNAL CLOCK INPUT		
PIN	SIGNAL	FUNCTION
01	4EXTCLK	+ TTL External Clock Input
02	GND	Ground

<b>TABLE 2-51. (option)</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J76</b> <b>BIT SYNC-4 RS-422 CLOCK INPUT</b>		
PIN	SIGNAL	FUNCTION
<b>01</b>	4EXTCLK	+ RS-422 Clock Input
<b>02</b>	9EXTCLK	- RS-422 Clock Input
<b>03</b>	GND	Ground

<b>TABLE 2-52.</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J88</b> <b>BIT SYNC-4 +TTL EXTERNAL DATA INPUT</b>		
PIN	SIGNAL	FUNCTION
<b>01</b>	9EXTDAT	+ TTL External Data Input
<b>02</b>	GND	Ground

<b>TABLE 2-52. (option)</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J88</b> <b>BIT SYNC-4 RS-422 DATA INPUT</b>		
PIN	SIGNAL	FUNCTION
<b>01</b>	4PCMDAT	+ RS-422 Data Input
<b>02</b>	9PCMDAT	- RS-422 Data Input
<b>03</b>	GND	Ground

<b>TABLE 2-53.</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J100</b> <b>BIT SYNC-4 + BI POLAR TAPE OUTPUT</b>		
PIN	SIGNAL	FUNCTION
<b>01</b>	4TAPOUT	+ Bi Polar Tape Output
<b>02</b>	GND	Ground

<b>TABLE 2-54.</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J112</b> <b>BIT SYNC-4 + TTL CODE OUTPUT</b>		
PIN	SIGNAL	FUNCTION
<b>01</b>	4CODEOT	+ TTL Code Output
<b>02</b>	GND	Ground

<b>TABLE 2-55.</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J124</b> <b>BIT SYNC-4 + TTL X2 CLOCK OUTPUT</b>		
PIN	SIGNAL	FUNCTION
<b>01</b>	4CLKX2	+ TTL X2 Clock Output
<b>02</b>	GND	Ground

<b>TABLE 2-56.</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J136</b> <b>BIT SYNC-4 + TTL RANDOMIZE OUTPUT</b>		
PIN	SIGNAL	FUNCTION
<b>01</b>	4RNRZDT	+ TTL Randomize Output
<b>02</b>	GND	Ground

<b>TABLE 2-57.</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J150</b> <b>BIT SYNC-4 AUX</b>		
PIN	SIGNAL	FUNCTION
<b>01</b>	AUX	N.C.
<b>02</b>	GND	Ground

<b>TABLE 2-58.</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J05</b> <b>BIT SYNC-5 SINGLE ENDED INPUT 1</b>		
PIN	SIGNAL	FUNCTION
<b>01</b>	4BSINP1	Single Ended Input 1
<b>02</b>	GND	Ground

<b>TABLE 2-59.</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J17</b> <b>BIT SYNC-5 SINGLE ENDED INPUT 2</b>		
PIN	SIGNAL	FUNCTION
<b>01</b>	4BSINP2	Single Ended Input 2
<b>02</b>	GND	Ground

<b>TABLE 2-60.</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J29</b> <b>BIT SYNC-5 SINGLE ENDED INPUT 3</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4BSINP3	Single Ended Input 3
<b>02</b>	GND	Ground

<b>TABLE 2-61.</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J41</b> <b>BIT SYNC-5 DIFFERENTIAL INPUT 4</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4DIFIN4	+ Differential Input 4
<b>02</b>	9DIFIN4	- Differential Input 4
<b>03</b>	GND	Ground

<b>TABLE 2-62.</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J53</b> <b>BIT SYNC-5 + TTL CLOCK OUTPUT</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4PCMCLK	+ TTL Clock Output
<b>02</b>	GND	Ground

<b>TABLE 2-62. (option)</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J53</b> <b>BIT SYNC-5 RS-422 CLOCK OUTPUT</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4PCMCLK	+ RS-422 Clock Output
<b>02</b>	9PCMCLK	- RS-422 Clock Output
<b>03</b>	GND	Ground

<b>TABLE 2-63.</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J65</b> <b>BIT SYNC-1 + TTL DATA OUTPUT</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4PCMDAT	+ TTL Data Output
<b>02</b>	GND	Ground

**TABLE 2-63. (option)**  
**MODEL 2650P REAR CHASSIS PANEL CONNECTOR J65**  
**BIT SYNC-5 RS-422 DATA OUTPUT**

PIN	SIGNAL	FUNCTION
<b>01</b>	4PCMDAT	+ RS-422 Data Output
<b>02</b>	9PCMDAT	- RS-422 Data Output
<b>03</b>	GND	Ground

**TABLE 2-64.**  
**MODEL 2650P REAR CHASSIS PANEL CONNECTOR J77**  
**BIT SYNC-5 + TTL EXTERNAL CLOCK INPUT**

PIN	SIGNAL	FUNCTION
<b>01</b>	4EXTCLK	+ TTL External Clock Input
<b>02</b>	GND	Ground

**TABLE 2-64. (option)**  
**MODEL 2650P REAR CHASSIS PANEL CONNECTOR J77**  
**BIT SYNC-5 RS-422 CLOCK INPUT**

PIN	SIGNAL	FUNCTION
<b>01</b>	4EXTCLK	+ RS-422 Clock Input
<b>02</b>	9EXTCLK	- RS-422 Clock Input
<b>03</b>	GND	Ground

**TABLE 2-65.**  
**MODEL 2650P REAR CHASSIS PANEL CONNECTOR J89**  
**BIT SYNC-5 + TTL EXTERNAL DATA INPUT**

PIN	SIGNAL	FUNCTION
<b>01</b>	9EXTDAT	+ TTL External Data Input
<b>02</b>	GND	Ground

**TABLE 2-65. (option)**  
**MODEL 2650P REAR CHASSIS PANEL CONNECTOR J89**  
**BIT SYNC-5 RS-422 DATA INPUT**

PIN	SIGNAL	FUNCTION
<b>01</b>	4EXTDAT	+ RS-422 Data Input
<b>02</b>	9EXTDAT	- RS-422 Data Input
<b>03</b>	GND	Ground

<b>TABLE 2-66.</b>		
<b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J101</b>		
<b>BIT SYNC-5 + BI POLAR TAPE OUTPUT</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4TAPOUT	+ Bi Polar Tape Output
<b>02</b>	GND	Ground

<b>TABLE 2-67.</b>		
<b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J113</b>		
<b>BIT SYNC-5 + TTL CODE OUTPUT</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4CODEOT	+ TTL Code Output
<b>02</b>	GND	Ground

<b>TABLE 2-68.</b>		
<b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J125</b>		
<b>BIT SYNC-5 + TTL X2 CLOCK OUTPUT</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4CLKX2	+ TTL X2 Clock Output
<b>02</b>	GND	Ground

<b>TABLE 2-69.</b>		
<b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J137</b>		
<b>BIT SYNC-5 + TTL RANDOMIZE OUTPUT</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4RNRZDT	+ TTL Randomize Output
<b>02</b>	GND	Ground

<b>TABLE 2-70.</b>		
<b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J151</b>		
<b>BIT SYNC-5 AUX</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	AUX	N.C.
<b>02</b>	GND	Ground

<b>TABLE 2-71.</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J06</b> <b>BIT SYNC-6 SINGLE ENDED INPUT 1</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4BSINP1	Single Ended Input 1
<b>02</b>	GND	Ground

<b>TABLE 2-72.</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J18</b> <b>BIT SYNC-6 SINGLE ENDED INPUT 2</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4BSINP2	Single Ended Input 2
<b>02</b>	GND	Ground

<b>TABLE 2-73</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J30</b> <b>BIT SYNC-6 SINGLE ENDED INPUT 3</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4BSINP3	Single Ended Input 3
<b>02</b>	GND	Ground

<b>TABLE 2-74</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J42</b> <b>BIT SYNC-6 DIFFERENTIAL INPUT 4</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4DIFIN4	+ Differential Input 4
<b>02</b>	9DIFIN4	- Differential Input 4
<b>03</b>	GND	Ground

<b>TABLE 2-75.</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J54</b> <b>BIT SYNC-6 + TTL CLOCK OUTPUT</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4PCMCLK	+ TTL Clock Output
<b>02</b>	GND	Ground

<b>TABLE 2-75. (option)</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J54</b> <b>BIT SYNC-6 RS-422 CLOCK OUTPUT</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4PCMCLK	+ RS-422 Clock Output
<b>02</b>	9PCMCLK	- RS-422 Clock Output
<b>03</b>	GND	Ground

<b>TABLE 2-76.</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J66</b> <b>BIT SYNC-6 + TTL DATA OUTPUT</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4PCMDAT	+ TTL Data Output
<b>02</b>	GND	Ground

<b>TABLE 2-76. (option)</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J66</b> <b>BIT SYNC-6 RS-422 DATA OUTPUT</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4PCMDAT	+ RS-422 Data Output
<b>02</b>	9PCMDAT	- RS-422 Data Output
<b>03</b>	GND	Ground

<b>TABLE 2-77.</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J78</b> <b>BIT SYNC-6 + TTL EXTERNAL CLOCK INPUT</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4EXTCLK	+ TTL External Clock Input
<b>02</b>	GND	Ground

<b>TABLE 2-77. (option)</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J78</b> <b>BIT SYNC-6 RS-422 CLOCK INPUT</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4EXTCLK	+ RS-422 Clock Input
<b>02</b>	9EXTCLK	- RS-422 Clock Input
<b>03</b>	GND	Ground

<b>TABLE 2-78.</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J90</b> <b>BIT SYNC-6 + TTL EXTERNAL DATA INPUT</b>		
PIN	SIGNAL	FUNCTION
<b>01</b>	9EXTDAT	+ TTL External Data Input
<b>02</b>	GND	Ground

<b>TABLE 2-78. (option)</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J90</b> <b>BIT SYNC-6 RS-422 DATA INPUT</b>		
PIN	SIGNAL	FUNCTION
<b>01</b>	4PCMDAT	+ RS-422 Data Input
<b>02</b>	9PCMDAT	- RS-422 Data Input
<b>03</b>	GND	Ground

<b>TABLE 2-79.</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J102</b> <b>BIT SYNC-6 + BI POLAR TAPE OUTPUT</b>		
PIN	SIGNAL	FUNCTION
<b>01</b>	4TAPOUT	+ Bi Polar Tape Output
<b>02</b>	GND	Ground

<b>TABLE 2-80.</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J114</b> <b>BIT SYNC-6 + TTL CODE OUTPUT</b>		
PIN	SIGNAL	FUNCTION
<b>01</b>	4CODEOT	+ TTL Code Output
<b>02</b>	GND	Ground

<b>TABLE 2-81.</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J126</b> <b>BIT SYNC-6 + TTL X2 CLOCK OUTPUT</b>		
PIN	SIGNAL	FUNCTION
<b>01</b>	4CLKX2	+ TTL X2 Clock Output
<b>02</b>	GND	Ground

<b>TABLE 2-82.</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J138</b> <b>BIT SYNC-6 + TTL RANDOMIZE OUTPUT</b>		
PIN	SIGNAL	FUNCTION
<b>01</b>	4RNRZDT	+ TTL Randomize Output
<b>02</b>	GND	Ground

<b>TABLE 2-83.</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J152</b> <b>BIT SYNC-6 AUX</b>		
PIN	SIGNAL	FUNCTION
<b>01</b>	AUX	N.C.
<b>02</b>	GND	Ground

<b>TABLE 2-84.</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J07</b> <b>BIT SYNC-7 SINGLE ENDED INPUT 1</b>		
PIN	SIGNAL	FUNCTION
<b>01</b>	4BSINP1	Single Ended Input 1
<b>02</b>	GND	Ground

<b>TABLE 2-85.</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J19</b> <b>BIT SYNC-7 SINGLE ENDED INPUT 2</b>		
PIN	SIGNAL	FUNCTION
<b>01</b>	4BSINP2	Single Ended Input 2
<b>02</b>	GND	Ground

<b>TABLE 2-86</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J31</b> <b>BIT SYNC-7 SINGLE ENDED INPUT 3</b>		
PIN	SIGNAL	FUNCTION
<b>01</b>	4BSINP3	Single Ended Input 3
<b>02</b>	GND	Ground

**TABLE 2-87**  
**MODEL 2650P REAR CHASSIS PANEL CONNECTOR J43**  
**BIT SYNC-7 DIFFERENTIAL INPUT 4**

<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4DIFIN4	+ Differential Input 4
<b>02</b>	9DIFIN4	- Differential Input 4
<b>03</b>	GND	Ground

**TABLE 2-88.**  
**MODEL 2650P REAR CHASSIS PANEL CONNECTOR J55**  
**BIT SYNC-7 + TTL CLOCK OUTPUT**

<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4PCMCLK	+ TTL Clock Output
<b>02</b>	GND	Ground

**TABLE 2-88. (option)**  
**MODEL 2650P REAR CHASSIS PANEL CONNECTOR J55**  
**BIT SYNC-7 RS-422 CLOCK OUTPUT**

<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4PCMCLK	+ RS-422 Clock Output
<b>02</b>	9PCMCLK	- RS-422 Clock Output
<b>03</b>	GND	Ground

**TABLE 2-89.**  
**MODEL 2650P REAR CHASSIS PANEL CONNECTOR J67**  
**BIT SYNC-7 + TTL DATA OUTPUT**

<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4PCMDAT	+ TTL Data Output
<b>02</b>	GND	Ground

**TABLE 2-89. (option)**  
**MODEL 2650P REAR CHASSIS PANEL CONNECTOR J67**  
**BIT SYNC-7 RS-422 DATA OUTPUT**

<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4PCMDAT	+ RS-422 Data Output
<b>02</b>	9PCMDAT	- RS-422 Data Output
<b>03</b>	GND	Ground

<b>TABLE 2-90.</b>		
<b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J79</b>		
<b>BIT SYNC-1 + TTL EXTERNAL CLOCK INPUT</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4EXTCLK	+ TTL External Clock Input
<b>02</b>	GND	Ground

<b>TABLE 2-90. (option)</b>		
<b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J79</b>		
<b>BIT SYNC-7 RS-422 CLOCK INPUT</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4EXTCLK	+ RS-422 Clock Input
<b>02</b>	9EXTCLK	- RS-422 Clock Input
<b>03</b>	GND	Ground

<b>TABLE 2-92.</b>		
<b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J91</b>		
<b>BIT SYNC-7 + TTL EXTERNAL DATA INPUT</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	9EXTDAT	+ TTL External Data Input
<b>02</b>	GND	Ground

<b>TABLE 2-92. (option)</b>		
<b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J91</b>		
<b>BIT SYNC-7 RS-422 DATA INPUT</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4EXTDAT	+ RS-422 Data Input
<b>02</b>	9EXTDAT	- RS-422 Data Input
<b>03</b>	GND	Ground

<b>TABLE 2-93.</b>		
<b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J103</b>		
<b>BIT SYNC-7 + BI POLAR TAPE OUTPUT</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4TAPOUT	+ Bi Polar Tape Output
<b>02</b>	GND	Ground

<b>TABLE 2-94.</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J115</b> <b>BIT SYNC-7 + TTL CODE OUTPUT</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4CODEOT	+ TTL Code Output
<b>02</b>	GND	Ground

<b>TABLE 2-95.</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J127</b> <b>BIT SYNC-7 + TTL X2 CLOCK OUTPUT</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4CLCKX2	+ TTL X2 Clock Output
<b>02</b>	GND	Ground

<b>TABLE 2-96.</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J139</b> <b>BIT SYNC-7 + TTL RANDOMIZE OUTPUT</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4RNRZDT	+ TTL Randomize Output
<b>02</b>	GND	Ground

<b>TABLE 2-97.</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J153</b> <b>BIT SYNC-7 AUX</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	AUX	N.C.
<b>02</b>	GND	Ground

<b>TABLE 2-98.</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J08</b> <b>BIT SYNC-8 SINGLE ENDED INPUT 1</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4BSINP1	Single Ended Input 1
<b>02</b>	GND	Ground

<b>TABLE 2-99.</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J20</b> <b>BIT SYNC-8 SINGLE ENDED INPUT 2</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4BSINP2	Single Ended Input 2
<b>02</b>	GND	Ground

<b>TABLE 2-100</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J32</b> <b>BIT SYNC-8 SINGLE ENDED INPUT 3</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4BSINP3	Single Ended Input 3
<b>02</b>	GND	Ground

<b>TABLE 2-101.</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J44</b> <b>BIT SYNC-8 DIFFERENTIAL INPUT 4</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4DIFIN4	+ Differential Input 4
<b>02</b>	9DIFIN4	- Differential Input 4
<b>03</b>	GND	Ground

<b>TABLE 2-102.</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J56</b> <b>BIT SYNC-8 + TTL CLOCK OUTPUT</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4PCMCLK	+ TTL Clock Output
<b>02</b>	GND	Ground

<b>TABLE 2-102.(option)</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J56</b> <b>BIT SYNC-8 RS-422 CLOCK OUTPUT</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4PCMCLK	+ RS-422 Clock Output
<b>02</b>	9PCMCLK	- RS-422 Clock Output
<b>03</b>	GND	Ground

<b>TABLE 2-103.</b>		
<b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J68</b>		
<b>BIT SYNC-8 + TTL DATA OUTPUT</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4 PCMDAT	+ TTL Data Output
<b>02</b>	GND	Ground

<b>TABLE 2-103.(option)</b>		
<b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J68</b>		
<b>BIT SYNC-8 RS-422 DATA OUTPUT</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4 PCMDAT	+ RS-422 Data Output
<b>02</b>	9 PCMDAT	- RS-422 Data Output
<b>03</b>	GND	Ground

<b>TABLE 2-104.</b>		
<b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J80</b>		
<b>BIT SYNC-8 + TTL EXTERNAL CLOCK INPUT</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4 EXTCLK	+ TTL External Clock Input
<b>02</b>	GND	Ground

<b>TABLE 2-104.(option)</b>		
<b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J80</b>		
<b>BIT SYNC-8 RS-422 CLOCK INPUT</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4 EXTCLK	+ RS-422 Clock Input
<b>02</b>	9 EXTCLK	- RS-422 Clock Input
<b>03</b>	GND	Ground

<b>TABLE 2-105.</b>		
<b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J92</b>		
<b>BIT SYNC-8 + TTL EXTERNAL DATA INPUT</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	9 EXTDAT	+ TTL External Data Input
<b>02</b>	GND	Ground

<b>TABLE 2-105.(option)</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J92</b> <b>BIT SYNC-8 RS-422 DATA INPUT</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4EXTDAT	+ RS-422 Data Input
<b>02</b>	9EXTDAT	- RS-422 Data Input
<b>03</b>	GND	Ground

<b>TABLE 2-106</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J104</b> <b>BIT SYNC-8 + BI POLAR TAPE OUTPUT</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4TAPOUT	+ Bi Polar Tape Output
<b>02</b>	GND	Ground

<b>TABLE 2-107</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J116</b> <b>BIT SYNC-8 + TTL CODE OUTPUT</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4CODEOT	+ TTL Code Output
<b>02</b>	GND	Ground

<b>TABLE 2-108</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J128</b> <b>BIT SYNC-8 + TTL X2 CLOCK OUTPUT</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4CLCKX2	+ TTL X2 Clock Output
<b>02</b>	GND	Ground

<b>TABLE 2-109</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J140</b> <b>BIT SYNC-8 + TTL RANDOMIZE OUTPUT</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4RNRZDT	+ Randomize Output
<b>02</b>	GND	Ground

<b>TABLE 2-110.</b>		
<b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J154</b>		
<b>BIT SYNC-8 AUX</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	AUX	N.C.
<b>02</b>	GND	Ground

<b>TABLE 2-111.</b>		
<b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J09</b>		
<b>BIT SYNC-9 SINGLE ENDED INPUT 1</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4BSINP1	Single Ended Input 1
<b>02</b>	GND	Ground

<b>TABLE 2-112.</b>		
<b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J21</b>		
<b>BIT SYNC-9 SINGLE ENDED INPUT 2</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4BSINP2	Single Ended Input 2
<b>02</b>	GND	Ground

<b>TABLE 2-113.</b>		
<b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J33</b>		
<b>BIT SYNC-9 SINGLE ENDED INPUT 3</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4BSINP3	Single Ended Input 3
<b>02</b>	GND	Ground

<b>TABLE 2-114.</b>		
<b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J45</b>		
<b>BIT SYNC-9 DIFFERENTIAL INPUT 4</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4DIFIN4	+ Differential Input 4
<b>02</b>	9DIFIN4	- Differential Input 4
<b>03</b>	GND	Ground

<b>TABLE 2-115.</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J57</b> <b>BIT SYNC-9 + TTL CLOCK OUTPUT</b>		
PIN	SIGNAL	FUNCTION
<b>01</b>	4PCMCLK	+ TTL Clock Output
<b>02</b>	GND	Ground

<b>TABLE 2-115.(option)</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J57</b> <b>BIT SYNC-9 RS-422 CLOCK OUTPUT</b>		
PIN	SIGNAL	FUNCTION
<b>01</b>	4PCMCLK	+ RS-422 Clock Output
<b>02</b>	9PCMCLK	- RS-422 Clock Output
<b>03</b>	GND	Ground

<b>TABLE 2-116.</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J69</b> <b>BIT SYNC-9 + TTL DATA OUTPUT</b>		
PIN	SIGNAL	FUNCTION
<b>01</b>	4PCMDAT	+ TTL Data Output
<b>02</b>	GND	Ground

<b>TABLE 2-116.(option)</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J69</b> <b>BIT SYNC-9 RS-422 DATA OUTPUT</b>		
PIN	SIGNAL	FUNCTION
<b>01</b>	4PCMDAT	+ RS-422 Data Output
<b>02</b>	9PCMDAT	- RS-422 Data Output
<b>03</b>	GND	Ground

<b>TABLE 2-117.</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J81</b> <b>BIT SYNC-9 + TTL EXTERNAL CLOCK INPUT</b>		
PIN	SIGNAL	FUNCTION
<b>01</b>	4EXTCLK	+ TTL External Clock Input
<b>02</b>	GND	Ground

**TABLE 2-117.(option)**  
**MODEL 2650P REAR CHASSIS PANEL CONNECTOR J81**  
**BIT SYNC-9 RS-422 CLOCK INPUT**

PIN	SIGNAL	FUNCTION
<b>01</b>	4EXTCLK	+ RS-422 Clock Input
<b>02</b>	9EXTCLK	- RS-422 Clock Input
<b>03</b>	GND	Ground

**TABLE 2-118.**  
**MODEL 2650P REAR CHASSIS PANEL CONNECTOR J93**  
**BIT SYNC-9 + TTL EXTERNAL DATA INPUT**

PIN	SIGNAL	FUNCTION
<b>01</b>	9EXTDAT	+ TTL External Data Input
<b>02</b>	GND	Ground

**TABLE 2-118.(option)**  
**MODEL 2650P REAR CHASSIS PANEL CONNECTOR J93**  
**BIT SYNC-9 RS-422 DATA INPUT**

PIN	SIGNAL	FUNCTION
<b>01</b>	4EXTDAT	+ RS-422 Data Input
<b>02</b>	9EXTDAT	- RS-422 Data Input
<b>03</b>	GND	Ground

**TABLE 2-119.**  
**MODEL 2650P REAR CHASSIS PANEL CONNECTOR J105**  
**BIT SYNC-9 + BI POLAR TAPE OUTPUT**

PIN	SIGNAL	FUNCTION
<b>01</b>	4TAPOUT	+ Bi Polar Tape Output
<b>02</b>	GND	Ground

**TABLE 2-120**  
**MODEL 2650P REAR CHASSIS PANEL CONNECTOR J117**  
**BIT SYNC-9 + TTL CODE OUTPUT**

PIN	SIGNAL	FUNCTION
<b>01</b>	4CODEOT	+ TTL Code Output
<b>02</b>	GND	Ground

**TABLE 2-121.**  
**MODEL 2650P REAR CHASSIS PANEL CONNECTOR J129**  
**BIT SYNC-9 + TTL X2 CLOCK OUTPUT**

<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4CLCKX2	+ TTL X2 Clock Output
<b>02</b>	GND	Ground

**TABLE 2-122.**  
**MODEL 2650P REAR CHASSIS PANEL CONNECTOR J141**  
**BIT SYNC-9 + TTL RANDOMIZE OUTPUT**

<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4RNRZDT	+ TTL Randomize Output
<b>02</b>	GND	Ground

**TABLE 2-123.**  
**MODEL 2650P REAR CHASSIS PANEL CONNECTOR J155**  
**BIT SYNC-9 AUX**

<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	AUX	N.C.
<b>02</b>	GND	Ground

**TABLE 2-124.**  
**MODEL 2650P REAR CHASSIS PANEL CONNECTOR J10**  
**BIT SYNC-10 SINGLE ENDED INPUT 1**

<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4BSINP1	Single Ended Input 1
<b>02</b>	GND	Ground

**TABLE 2-125.**  
**MODEL 2650P REAR CHASSIS PANEL CONNECTOR J22**  
**BIT SYNC-10 SINGLE ENDED INPUT 2**

<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4BSINP2	Single Ended Input 2
<b>02</b>	GND	Ground

<b>TABLE 2-126.</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J34</b> <b>BIT SYNC-10 SINGLE ENDED INPUT 3</b>		
PIN	SIGNAL	FUNCTION
<b>01</b>	4BSINP3	Single Ended Input 3
<b>02</b>	GND	Ground

<b>TABLE 2-127.</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J46</b> <b>BIT SYNC-10 DIFFERENTIAL INPUT 4</b>		
PIN	SIGNAL	FUNCTION
<b>01</b>	4DIFIN4	+ Differential Input 4
<b>02</b>	9DIFIN4	- Differential Input 4
<b>03</b>	GND	Ground

<b>TABLE 2-128</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J58</b> <b>BIT SYNC-10 + TTL CLOCK OUTPUT</b>		
PIN	SIGNAL	FUNCTION
<b>01</b>	4PCMCLK	+ TTL Clock Output
<b>02</b>	GND	Ground

<b>TABLE 2-128 (option)</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J58</b> <b>BIT SYNC-10 RS-422 NTIAL CLOCK OUTPUT</b>		
PIN	SIGNAL	FUNCTION
<b>01</b>	4PCMCLK	+ RS-422 Clock Output
<b>02</b>	9PCMCLK	- RS-422 Clock Output
<b>03</b>	GND	Ground

<b>TABLE 2-128.</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J70</b> <b>BIT SYNC-10 + TTL DATA OUTPUT</b>		
PIN	SIGNAL	FUNCTION
<b>01</b>	4PCMDAT	+ TTL Data Output
<b>02</b>	GND	Ground

<b>TABLE 2-128.(option)</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J70</b> <b>BIT SYNC-10 RS-422 DATA OUTPUT</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4PCMDAT	+ RS-422 Data Output
<b>02</b>	9PCMDAT	- RS-422 Data Output
<b>03</b>	GND	Ground

<b>TABLE 2-130.</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J82</b> <b>BIT SYNC-10 + TTL EXTERNAL CLOCK INPUT</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4EXTCLK	+ TTL External Clock Input
<b>02</b>	GND	Ground

<b>TABLE 2-130.(option)</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J82</b> <b>BIT SYNC-10 RS-422 CLOCK INPUT</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4EXTCLK	+ RS-422 Clock Input
<b>02</b>	9EXTCLK	- RS-422 Clock Input
<b>03</b>	GND	Ground

<b>TABLE 2-131.</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J94</b> <b>BIT SYNC-10 + TTL EXTERNAL DATA INPUT</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	9EXTDAT	+ TTL External Data Input
<b>02</b>	GND	Ground

<b>TABLE 2-131.(option)</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J94</b> <b>BIT SYNC-10 RS-422 DATA INPUT</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4EXTDAT	+ RS-422 Data Input
<b>02</b>	9EXTDAT	- RS-422 Data Input
<b>03</b>	GND	Ground

<b>TABLE 2-132.</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J106</b> <b>BIT SYNC-10 + BI POLAR TAPE OUTPUT</b>		
PIN	SIGNAL	FUNCTION
<b>01</b>	4TAPOUT	+ Bi Polar Tape Output
<b>02</b>	GND	Ground

<b>TABLE 2-133.</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J118</b> <b>BIT SYNC-10 + TTL CODE OUTPUT</b>		
PIN	SIGNAL	FUNCTION
<b>01</b>	4CODEOT	+ TTL Code Output
<b>02</b>	GND	Ground

<b>TABLE 2-134</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J130</b> <b>BIT SYNC-10 + TTL X2 CLOCK OUTPUT</b>		
PIN	SIGNAL	FUNCTION
<b>01</b>	4CLKX2	+ TTL X2 Clock Output
<b>02</b>	GND	Ground

<b>TABLE 2-135</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J142</b> <b>BIT SYNC-10 + TTL RANDOMIZE OUTPUT</b>		
PIN	SIGNAL	FUNCTION
<b>01</b>	4RNRZDT	+ TTL Randomize Output
<b>02</b>	GND	Ground

<b>TABLE 2-136.</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J156</b> <b>BIT SYNC-10 AUX</b>		
PIN	SIGNAL	FUNCTION
<b>01</b>	AUX	N.C.
<b>02</b>	GND	Ground

<b>TABLE 2-137.</b>		
<b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J11 BIT SYNC-11 SINGLE ENDED INPUT 1</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4BSINP1	Single Ended Input 1
<b>02</b>	GND	Ground

<b>TABLE 2-138.</b>		
<b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J23 BIT SYNC-11 SINGLE ENDED INPUT 2</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4BSINP2	Single Ended Input 2
<b>02</b>	GND	Ground

<b>TABLE 2-139.</b>		
<b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J35 BIT SYNC-11 SINGLE ENDED INPUT 3</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4BSINP3	Single Ended Input 3
<b>02</b>	GND	Ground

<b>TABLE 2-140.</b>		
<b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J47 BIT SYNC-11 DIFFERENTIAL INPUT 4</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4DIFIN4	+ Differential Input 4
<b>02</b>	9DIFIN4	- Differential Input 4
<b>03</b>	GND	Ground

<b>TABLE 2-141.</b>		
<b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J59 BIT SYNC-11 + TTL CLOCK OUTPUT</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4PCMCLK	+ TTL Clock Output
<b>02</b>	GND	Ground

**TABLE 2-141.(option)**  
**MODEL 2650P REAR CHASSIS PANEL CONNECTOR J59**  
**BIT SYNC-11 RS-422 CLOCK OUTPUT**

<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4PCMCLK	+ RS-422 Clock Output
<b>02</b>	9PCMCLK	- RS-422 Clock Output
<b>03</b>	GND	Ground

**TABLE 2-142.**  
**MODEL 2650P REAR CHASSIS PANEL CONNECTOR J71**  
**BIT SYNC-11 + TTL DATA OUTPUT**

<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4PCMDAT	+ TTL Data Output
<b>02</b>	GND	Ground

**TABLE 2-142.(option)**  
**MODEL 2650P REAR CHASSIS PANEL CONNECTOR J71**  
**BIT SYNC-11 RS-422 DATA OUTPUT**

<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4PCMDAT	+ RS-422 Data Output
<b>02</b>	9PCMDAT	- RS-422 Data Output
<b>03</b>	GND	Ground

**TABLE 2-143.**  
**MODEL 2650P REAR CHASSIS PANEL CONNECTOR J83**  
**BIT SYNC-11 + TTL EXTERNAL CLOCK INPUT**

<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4EXTCLK	+ TTL External Clock Input
<b>02</b>	GND	Ground

**TABLE 2-143.(option)**  
**MODEL 2650P REAR CHASSIS PANEL CONNECTOR J83**  
**BIT SYNC-11 RS-422 CLOCK INPUT**

<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4EXTCLK	+ RS-422 Clock Input
<b>02</b>	9EXTCLK	- RS-422 Clock Input
<b>03</b>	GND	Ground

<b>TABLE 2-144.</b>		
<b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J95 BIT SYNC-11 + TTL EXTERNAL DATA INPUT</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	9EXTDAT	+ TTL External Data Input
<b>02</b>	GND	Ground

<b>TABLE 2-144.(option)</b>		
<b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J95 BIT SYNC-11 RS-422 DATA INPUT</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4EXTDAT	+ RS-422 Data Input
<b>02</b>	9EXTDAT	- RS-422 Data Input
<b>03</b>	GND	Ground

<b>TABLE 2-145.</b>		
<b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J107 BIT SYNC-11 + BI POLAR TAPE OUTPUT</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4TAPOUT	+ Bi Polar Tape Output
<b>02</b>	GND	Ground

<b>TABLE 2-146.</b>		
<b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J119 BIT SYNC-11 + TTL CODE OUTPUT</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4CODEOT	+ TTL Code Output
<b>02</b>	GND	Ground

<b>TABLE 2-147.</b>		
<b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J131 BIT SYNC-11 + TTL X2 CLOCK OUTPUT</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4CLCKX2	+ TTL X2 Clock Output
<b>02</b>	GND	Ground

<b>TABLE 2-148.</b>		
<b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J143</b>		
<b>BIT SYNC-11 + TTL RANDOMIZE OUTPUT</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4RNRZDT	+ TTL Randomize Output
<b>02</b>	GND	Ground

<b>TABLE 2-149.</b>		
<b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J157</b>		
<b>BIT SYNC-11 AUX</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	AUX	N.C.
<b>02</b>	GND	Ground

<b>TABLE 2-150.</b>		
<b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J12</b>		
<b>BIT SYNC-12 SINGLE ENDED INPUT 1</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4BSINP1	Single Ended Input 1
<b>02</b>	GND	Ground

<b>TABLE 2-151.</b>		
<b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J24</b>		
<b>BIT SYNC-12 SINGLE ENDED INPUT 2</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4BSINP2	Single Ended Input 2
<b>02</b>	GND	Ground

<b>TABLE 2-152.</b>		
<b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J36</b>		
<b>BIT SYNC-12 SINGLE ENDED INPUT 3</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4BSINP3	Single Ended Input 3
<b>02</b>	GND	Ground

<b>TABLE 2-153.</b>		
<b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J48 BIT SYNC-12 DIFFERENTIAL INPUT 4</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4DIFIN4	+ Differential Input 4
<b>02</b>	9DIFIN4	- Differential Input 4
<b>03</b>	GND	Ground

<b>TABLE 2-154.</b>		
<b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J60 BIT SYNC-12 + TTL CLOCK OUTPUT</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4PCMCLK	+ TTL Clock Output
<b>02</b>	GND	Ground

<b>TABLE 2-154.(option)</b>		
<b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J60 BIT SYNC-12 RS-422 CLOCK OUTPUT</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4PCMCLK	+ RS-422 Clock Output
<b>02</b>	9PCMCLK	- RS-422 Clock Output
<b>03</b>	GND	Ground

<b>TABLE 2-155.</b>		
<b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J72 BIT SYNC-12 + TTL DATA OUTPUT</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4PCMDAT	+ TTL Data Output
<b>02</b>	GND	Ground

<b>TABLE 2-155.(option)</b>		
<b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J72 BIT SYNC-12 RS-422 DATA OUTPUT</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4PCMDAT	+ RS-422 Data Output
<b>02</b>	9PCMDAT	- RS-422 Data Output
<b>03</b>	GND	Ground

<b>TABLE 2-156.</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J84</b> <b>BIT SYNC-12 + TTL EXTERNAL CLOCK INPUT</b>		
PIN	SIGNAL	FUNCTION
<b>01</b>	4EXTCLK	+ TTL External Clock Input
<b>02</b>	GND	Ground

<b>TABLE 2-156.(option)</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J84</b> <b>BIT SYNC-12 RS-422 CLOCK INPUT</b>		
PIN	SIGNAL	FUNCTION
<b>01</b>	4EXTCLK	+ RS-422 Clock Input
<b>02</b>	9EXTCLK	- RS-422 Clock Input
<b>03</b>	GND	Ground

<b>TABLE 2-157.</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J96</b> <b>BIT SYNC-12 + TTL EXTERNAL DATA INPUT</b>		
PIN	SIGNAL	FUNCTION
<b>01</b>	9EXTDAT	+ TTL External Data Input
<b>02</b>	GND	Ground

<b>TABLE 2-157.(option)</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J96</b> <b>BIT SYNC-12 RS-422 DATA INPUT</b>		
PIN	SIGNAL	FUNCTION
<b>01</b>	4EXTDAT	+ RS-422 Data Input
<b>02</b>	9EXTDAT	- RS-422 Data Input
<b>03</b>	GND	Ground

<b>TABLE 2-158.</b> <b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J108</b> <b>BIT SYNC-12 + BI POLAR TAPE OUTPUT</b>		
PIN	SIGNAL	FUNCTION
<b>01</b>	4TAPOUT	+ BI Polar Tape Output
<b>02</b>	GND	Ground

<b>TABLE 2-159.</b>		
<b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J120 BIT SYNC-12 + TTL CODE OUTPUT</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4CODEOT	+ TTL Code Output
<b>02</b>	GND	Ground

<b>TABLE 2-160.</b>		
<b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J132 BIT SYNC-12 + TTL X2 CLOCK OUTPUT</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4CLCKX2	+ TTL X2 Clock Output
<b>02</b>	GND	Ground

<b>TABLE 2-161.</b>		
<b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J144 BIT SYNC-12 + TTL RANDOMIZE OUTPUT</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	4RNRZDT	+ TTL Randomize Output
<b>02</b>	GND	Ground

<b>TABLE 2-162</b>		
<b>MODEL 2650P REAR CHASSIS PANEL CONNECTOR J158 BIT SYNC-12 AUX</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	AUX	N.C.
<b>02</b>	GND	Ground

<b>TABLE 2-163. CONNECTOR LIST</b> <b>MODEL 222XV REAR CHASSIS PANEL CONNECTOR J145</b> <b>COM-1</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	DCDA	Data Carrier Detect
<b>02</b>	RXDA	Receive Data
<b>03</b>	TXDA	Transmit Data
<b>04</b>	DTRA	Data Terminal Ready
<b>05</b>	GND	Ground
<b>06</b>	DSRA	Data Set Ready
<b>07</b>	RTSA	Request To Send
<b>08</b>	CTSA	Clear To Send
<b>09</b>	RIA	Ring Indicator

<b>TABLE 2-164. CONNECTOR LIST</b> <b>MODEL 222XV REAR CHASSIS PANEL CONNECTOR J146</b> <b>E-NET 10_100 BASE-T</b>		
<b>PIN</b>	<b>SIGNAL</b>	<b>FUNCTION</b>
<b>01</b>	TX+	Transmit Data Plus
<b>02</b>	TX-	Transmit Data Minus
<b>03</b>	RX+	Receive Data Plus
<b>04</b>	T45	
<b>05</b>	T45	
<b>06</b>	RX-	Receive Data Minus
<b>07</b>	T78	
<b>08</b>	T78	

## SECTION 3 OPERATION

### 3.1 INTRODUCTION

*User's Manual for the Acroamatics Bit Synchronizer Cards*, Acroamatics Document Number 6000392 is included on the CD included with your 2650P. Refer to DN6000382 for a full description of how to program and operate the Model 2650P through a menu driven GUI.



## SECTION 4 MAINTENANCE, TROUBLESHOOTING, AND REPAIR

### 4.1 MAINTENANCE

The MBS requires no special maintenance. Use a soft cloth to clean the front panel.

### 4.2 TROUBLESHOOTING AND REPAIR

Troubleshooting the MBS consists of isolating apparent faults to the CPU motherboard or a BSYN card (the only LRUs in the unit). Check any suspected bad card by swapping in an identical card known to be good. Ensure that the swap cards' dip switch settings and cable connections are identical. If the fault then disappears, return the suspect card to Acroamatics for repair. (The card is not intended to be repaired in the field.) If the fault persists, return the entire unit for repair. For shipping instructions, see 1.6, SHIPPING AND HANDLING PRECAUTIONS. Technical support is available from Acroamatics at (805) 967-9909. To begin troubleshooting, ensure that valid input data and 104 - 125VAC power (or power appropriate for your unit) are being supplied to the unit.

#### WARNING

Before beginning the procedures below, read and heed the SAFETY PRECAUTIONS section in the front matter of this manual. Failure to follow these precautions may result in personnel injury or death.

### 4.3 AVOIDING ESD DAMAGE

#### WARNING

CAUTION Handling electronic equipment without observing the precautions described below may result in damage to the equipment. Read and understand the following instructions before you open the chassis or handle any cards.

#### 4.3.1 ESD Procedures

- a. Provide enough room to work on the equipment. Clear the work site of any unnecessary materials that naturally build up electrostatic charge, such as foam packaging, foam cups, cellophane wrappers, and similar materials.
- b. Do not remove the cards from their antistatic packaging until the moment that you are ready to install them.
- c. Use ESD-protective equipment, such as a wrist strap, when handling the cards. If ESD-protective equipment is not available, follow the emergency procedures below.

### 4.3.2 Emergency ESD Procedures

When ESD-protective equipment is not available, use these procedures to help ensure that your body and the equipment have the same electrostatic potential. These procedures are not a substitute for the use of ESD-protective equipment.

- a. Before touching any boards to be placed inside or removed from equipment, firmly touch an unpainted surface of the chassis.
- b. Before removing any board from its antistatic bag, place one hand firmly on an unpainted surface of the chassis, and while one hand is still on the chassis, pick up the board while it is still sealed in the antistatic bag. Once you have done this, do not move around the room or contact other objects or personnel until you have finished handling the board. \* Once you have removed a board from its antistatic bag, always handle the board by the edges; avoid touching components and circuits on a printed circuit board.
- c. If you must move around the room or touch other objects before you have finished handling the board, place the board back in the antistatic bag. When you need to remove it again from the bag, repeat the proper ESD procedures.

### 4.4 UNPACKING NEW CARDS

Open the cardboard shipping containers and remove the cards from their antistatic bags. Retain all materials for re-use if returning cards to the factory.

### 4.5 CARD ACCESS

#### CAUTION

Failure to turn off power to the unit before removing or installing cards will result in major damage to equipment. Before beginning any of the card removal or installation procedures below, power down the unit.

The BSYN PCI cards in your MBS all mount in standard PCI slots. Mounting dimensions are shown in the assembly drawing in Section 6 of the card manuals, and follow standard PCIbus standards.

Remove the top of the unit by completely removing the screws in the top cover. The BSYN cards are mounted in the six PCI slots on the motherboard.

### 4.6 REMOVING AND INSTALLING CARDS

To remove a BSYN card from a PCI slot, first remove any cables attached to the 601P or 472P card connectors. (leave the other end of the cables attached to the rear panel). Remove the bracket screw and then carefully remove the BSYN from the PCI motherboard connector by pulling up on the bracket and the rear of the card.

To insert a card, place it into a PCI slot and seat it firmly by pressing carefully on the top of the card and the bracket. Connect the two corresponding rear panel cables to the connectors on the 601P and 472P cards.

## 4.7 FAULT CONDITIONS AND RESPONSES

The most likely fault condition is that processible data is not being sent from the MBS to the next unit in the system. In that case, verify setup and valid input data to the MBS. Swap out cards as above to verify that data is recoverable. If data is successfully recovered, return the suspect BSYN for repair. A fault may also be identified by sending "inquiry" commands to a BSYN.

Following are some other possible faults and isolation procedures.

- a. **Fault:** When power button is pressed, button does not light; display panel does not light.  
*Probable Cause:* Failed power supply or faulty remote cable.  
*Response:* Ensure that power is being supplied to unit. Inspect for loose cabling to CPU board. If fault recurs, return entire unit for repair.
- b. **Fault:** On startup, display is blank or operating system does not finish initialization.  
*Probable Cause:* Failed CPU card or HDD.  
*Response:* Try swapping HDD with a known good unit. If the system works, return HDD for repair. If system still fails, return CPU board for repair.
- c. **Fault:** Flashing front panel switch indicator and/or audible alarm.  
*Probable Cause:* Failed power supply.  
*Response:* Remove power supply that has LED flashing. The MBS will still continue working. Return faulty power supply for repair.
- d. **Fault:** When you enter a bit rate to a BSYN, the error message *Servo Error* is displayed. This message indicates that the PLL has failed to set the clock rate to within 0.1% of the requested rate.  
*Probable Cause:* Failed BSYN.  
*Response:* Reenter the bit rate. If error message recurs, swap the BSYN with an identical, known good BSYN. If the correct initial display now appears, return the suspect BSYN for repair; if the fault recurs, return the entire unit for repair.
- e. **Fault:** With no input data applied, LOSS LED does not light and/or there is an indication at the STATUS test point that a signal is present (signal-strength peak value, e.g. 2V).  
*Probable Cause:* Failed BSYN.  
*Response:* Swap BSYN with identical card known to be good. If fault does not recur, return suspect BSYN for repair; if fault recurs, return entire unit for repair.
- f. **Fault:** Unit reports incorrect values for a known input signal.  
*Probable Cause:* Failed BSYN.  
*Response:* Swap BSYN with identical card known to be good. If fault does not now recur, return suspect BSYN for repair; if fault recurs, return entire unit for repair.

#### **4.8 FACTORY RETURN**

When you return a card or chassis to the factory for repair or modification, include as much information as possible describing the failure mode or the modification or update you want. Provide the name and phone number of a technical contact our technical staff can talk to regarding your return. To return cards or chassis, see Paragraph 1.6, SHIPPING AND HANDLING PRECAUTIONS. Call Acroamatics at (805) 967-9909 to get an RMA number before returning any equipment to the factory, and include the RMA number in any correspondence or shipments to Acroamatics.

## SECTION 5 DRAWINGS

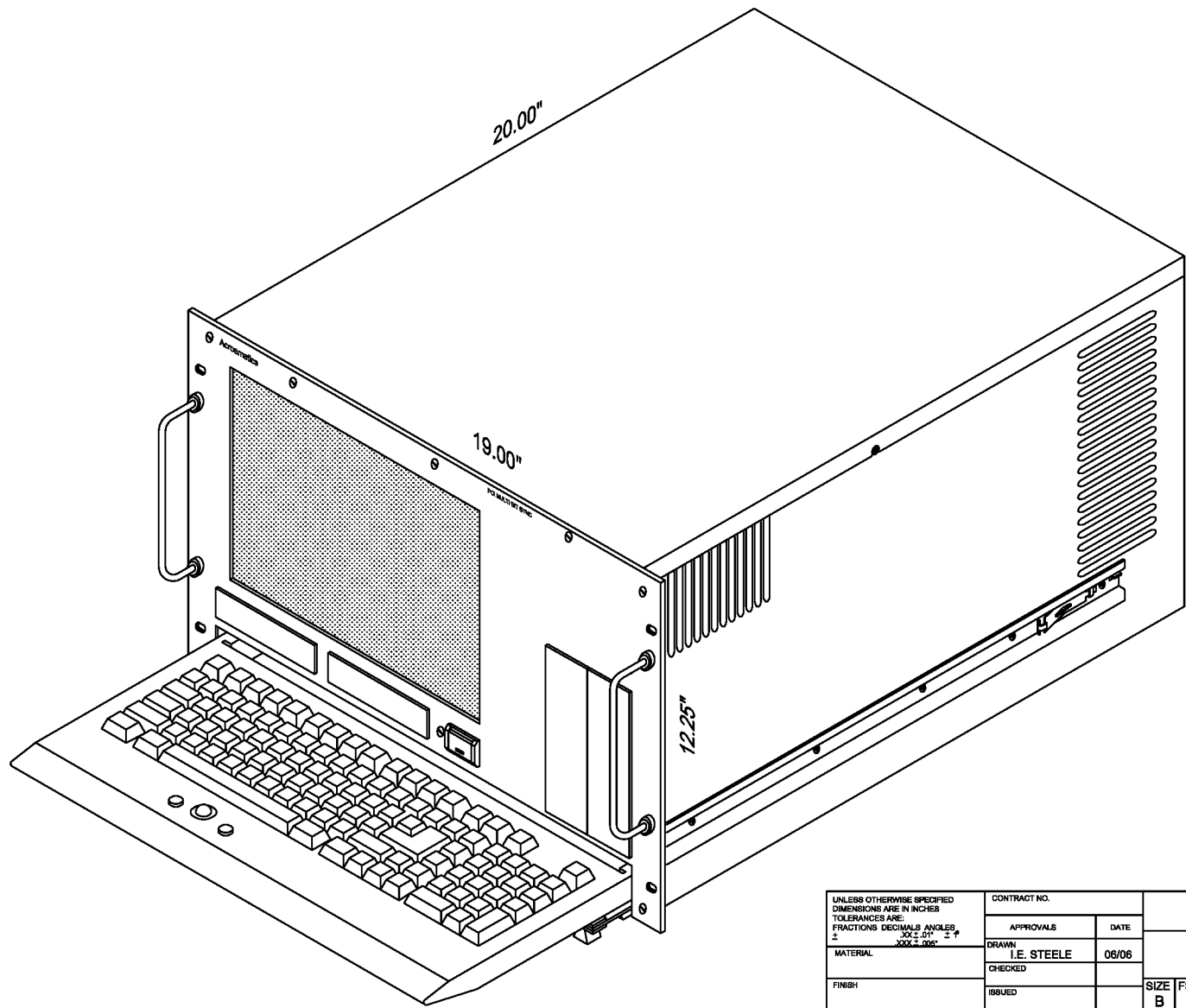
### 5.1 DESCRIPTION

This section contains assembly, LOM, and chassis schematic drawings that mechanically describe your Model 2650V PCI MBS chassis. The drawings relate to the specific serial numbered unit you have received, and all drawings provided are relevant.

The assembly and LOM drawings of the 6011601P BSYN PCI card are located in *Technical Manual - 1601P PCI Bit Synchronizer*, Acroamatics Document Number 6000383.

REV.	ECR#	DATE
A	4991	12/04
B	5017	02/05
C	5019	06/05
D	5092	06/06

\*ASSOCIATED LOM ON THIS ECR.



UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS DECIMALS ANGLES ± .002 .01 ° ± # XXX ± .002		CONTRACT NO.		Acroamatics, Inc. GOLETA, CA. 93117	
APPROVALS		DATE		ASSEMBLY, PCI MULTI BIT SYNC ISOMETRIC	
DRAWN I.E. STEELE		06/06			
MATERIAL		CHECKED		SIZE	FSCM NO.
FINISH		ISSUED		B	DWG. NO.
DO NOT SCALE DRAWING		SCALE		NTS	3300218-01
				SHEET	1 OF 1
				REV.	D

Engineer Richard G.

Drawing 3300218-01

Last Used 7/13/2005

Type Standard

No.	Component	Qty	U/M	Description	Rev	Type	Manufacture Part #	Manufacture	Reference
1	6730152	1	EACH	FR PNL-PCI BS CHAS MN2430P			6730152	ACROAMATICS	SCRN. #8071237 (item 104)
2	4980001	2	EACH	HANDLE CHASSIS			1013-13	USECO	
3	4300001	4	EACH	FERRULE			900-13	USECO	
4									
5									
6									
7	6053115	1	EACH	SUBASSY-VIDEO 12"	*	STD	6053115	ACROAMATICS	
8	5521025	1	EACH	KEYBD W/TRACKBALL			70-180-10	ELMA	MOD. #5951157 (item 105)
9									
10	2240191	1	EACH	CHASSIS LEFT SIDE PANEL BSS/PC			2240191	ACROAMATICS	
11	2240192	1	EACH	CHASSIS RIGHT SIDE PANEL BSS/P			2240192	ACROAMATICS	
12	1480245	1	EACH	BRKT,FRONT/TOP BSS/PCI			1480245	ACROAMATICS	
13	1480160	1	EACH	BRKT,ALUM. BAR			1480160	ACROAMATICS	
14	1480258	1	EACH	BRKT,TOP PERIPHERAL SUPPORT			1480258	ACROAMATICS	
15	1480247	1	EACH	BRKT,PERIPHERALS TRAY BSS			1480247	ACROAMATICS	
16	1480133	1	EACH	BRKT,KEYBD STP SLIDE RT			1480133	ACROAMATICS	
17	1480132	1	EACH	BRKT,KEYBD STP SLIDE LT			1480132	ACROAMATICS	
18	1480131	1	EACH	BRKT,KEYBD SLIDE BAR RT			1480131	ACROAMATICS	
19	1480130	1	EACH	BRKT,KEYBD SLIDE BAR LT			1480130	ACROAMATICS	
20	1480274	1	EACH	REAR CARD 14 SLOT INTERNAL RP			1480274	ACROAMATICS	
21	1480276	1	EACH	PCI CARD SECURING BRACKET			1480276	ACROAMATICS	
22	1480278	1	EACH	PCI CPU SECURING BRACKET	*		1480278	ACROAMATICS	
23	1480275	1	EACH	MOTHERBOARD BRACKET for MULTI-			1480275	ACROAMATICS	
24	0910009	1	EACH	BACKPLANE, PASSIVE 12 PCI, 2 I			PX14S3-R2	ORBIT-MICRO	MOD. #5952011 (item 109)
25	5045009	1	EACH	HDR,PC 3P RT ANGLE	*		22-05-3031	MOLEX	
26	2240196	1	EACH	CHASSIS INTERNAL RP for 2650P			2240196	ACROAMATICS	
27	2240197	1	EACH	CHASSIS OUTSIDE RP for 2650P M			2240197	ACROAMATICS	SCRN. #8071259 (item 106)
28									
29	4241003	6	EACH	GUARD FINGER FOR FAN			LZ22N-1	PAMOTOR	
30	4240024	3	EACH	FAN 3", 12VDC, 1.68W, 34.6CFM			3108NL-04W-B30-P00	NMB	
31	7130098	1	EACH	POWER SUPPLY 500W/500W			TC500R8A	ORBIT-MICRO	MOD. #5952010 (item 108)
32	3061062	1	EACH	COVER BOTTOM PCI BSS W/BS			3061062	ACROAMATICS	
33	3061063	1	EACH	COVER TOP PCI BSS W/BS			3061063	ACROAMATICS	
34									
35	2794194	1	EACH	CONN COUPING RJ45 PNL MNT F/F			8P8C-WA	PI-MFG	RP-J146
36									
37	1716555-32	1	EACH	CBL 3S TO SWITCH	*	STD	1716555-32	ACROAMATICS	FP TO ITEM 24 CN-2
38	1715433-40	1	EACH	CBL 9P D-SUB TO 9S D-SUB	*	STD	1715433-40	ACROAMATICS	FEMALE TO CPU-COM1, MALE TO RP-J145
39	1716249-24	1	EACH	CBL 2P TO 4P MOLEX	*	STD	1716249-24	ACROAMATICS	
40	1716468-12	1	EACH	CBL POWER TO 2 FANS	*	STD	1716468-12	ACROAMATICS	FAN 1&2
41	1716469-12	1	EACH	CBL POWER TO 1 FANS	*	STD	1716469-12	ACROAMATICS	FAN 3
42	1714330-78	1	EACH	CBL 34P RBN TO 34P RBN (FDD)	*	STD	1714330-78	ACROAMATICS	
43	1716369	1	EACH	CBL CAT-5,4 PR 2'			DCA2232	DATA-COM	RP-J146
44	1716545	1	EACH	CABLE ULTRA_ATA133 TO 2X ATA1			18734	CABLES TO GO	
45	2794090	10	EACH	CONN PINS GLD FOR 102387-0001			86015-5	AMP	p/o Item 48

Engineer Richard G.

Drawing 3300218-01

Last Used 7/13/2005

Type Standard

No.	Component	Qty	U/M	Description	Rev	Type	Manufacture Part #	Manufacture	Reference
46	2794138	1	EACH	CONN 10P RBN HOUSING			102387-1	AMP	p/o Item 48
47	3578007	1	EACH	DISC DR 3.5" IBM COMP 1.44M			FD235HF-A829	TEAC	
48									
49	3578100	1	EACH	USB 2.0 3/5" PANEL HUB BLACK			30564	CABLES TO GO	MOD. # 5951174, (item 107) CPU-USBA TO HUB-CON5
50									
51	3578101	1	EACH	CDRW 52X32X52 w/ BLACK BEZEL			CDW5232ASQuietTrack	ASUS	
52									
53	3578091	1	EACH	HD IDE 7200RPM 80GB ATA/100			WD800JB	WESTERN-DIGITAL	
54	2600027	1	EACH	IDE HARD DRIVE CARRIER			DE100I-A100/B	KINGSTON	
55									
56					*				
57					*				
58					*				
59									
60	6031272	1	EACH	2.8GHZ P4 PCI DDR 512MB SBC	*		PEAK-735VL2G	RACK SOLUTIONS	SLOT ISA1
61									
62									
63									
64									
65									
66	6011601-14	1	EACH	PCI BS - 3.5/5V, TAPE/2ND DATA	*	STD	6011601-14	ACROAMATICS	SLOT SPC19(BSYN-1)
67	1716544-18	1	EACH	CBL 26P MDR to 25P MICRO-D	*	STD	1716544-18	ACROAMATICS	RPCB1-J4 TO SPC19-J02
68	6011495-01	1	EACH	MULTI BIT SYNC RP 22BNC 2 TWX	*	STD	6011495-01	ACROAMATICS	RPCB1
69	6011601-14	1	EACH	PCI BS - 3.5/5V, TAPE/2ND DATA	*	STD	6011601-14	ACROAMATICS	SLOT SPC18(BSYN-2)
70	1716544-18	1	EACH	CBL 26P MDR to 25P MICRO-D	*	STD	1716544-18	ACROAMATICS	RPCB1-J21 TO SPC18-J02
71									
72	6011601-14	1	EACH	PCI BS - 3.5/5V, TAPE/2ND DATA	*	STD	6011601-14	ACROAMATICS	SLOT SPC17(BSYN-3)
73	1716544-18	1	EACH	CBL 26P MDR to 25P MICRO-D	*	STD	1716544-18	ACROAMATICS	RPCB2-J4 TO SPC17-J02
74	6011495-01	1	EACH	MULTI BIT SYNC RP 22BNC 2 TWX	*	STD	6011495-01	ACROAMATICS	RPCB2
75	6011601-14	1	EACH	PCI BS - 3.5/5V, TAPE/2ND DATA	*	STD	6011601-14	ACROAMATICS	SLOT SPC16(BSYN-4)
76	1716544-18	1	EACH	CBL 26P MDR to 25P MICRO-D	*	STD	1716544-18	ACROAMATICS	RPCB2-J21 TO SPC16-J02
77									
78	6011601-14	1	EACH	PCI BS - 3.5/5V, TAPE/2ND DATA	*	STD	6011601-14	ACROAMATICS	SLOT SPC15(BSYN-5)
79	1716544-18	1	EACH	CBL 26P MDR to 25P MICRO-D	*	STD	1716544-18	ACROAMATICS	RPCB3-J4 TO SPC15-J02
80	6011495-01	1	EACH	MULTI BIT SYNC RP 22BNC 2 TWX	*	STD	6011495-01	ACROAMATICS	RPCB3
81	6011601-14	1	EACH	PCI BS - 3.5/5V, TAPE/2ND DATA	*	STD	6011601-14	ACROAMATICS	SLOT SPC14(BSYN-6)
82	1716544-18	1	EACH	CBL 26P MDR to 25P MICRO-D	*	STD	1716544-18	ACROAMATICS	RPCB3-J21 TO SPC14-J02
83									
84	6011601-14	1	EACH	PCI BS - 3.5/5V, TAPE/2ND DATA	*	STD	6011601-14	ACROAMATICS	SLOT SPC13(BSYN-7)
85	1716544-18	1	EACH	CBL 26P MDR to 25P MICRO-D	*	STD	1716544-18	ACROAMATICS	RPCB4-J4 TO SPC13-J02
86	6011495-01	1	EACH	MULTI BIT SYNC RP 22BNC 2 TWX	*	STD	6011495-01	ACROAMATICS	RPCB4
87	6011601-14	1	EACH	PCI BS - 3.5/5V, TAPE/2ND DATA	*	STD	6011601-14	ACROAMATICS	SLOT SPC12(BSYN-8)
88	1716544-18	1	EACH	CBL 26P MDR to 25P MICRO-D	*	STD	1716544-18	ACROAMATICS	RPCB4-J21 TO SPC12-J02
89									
90									

























