

# Linear IC and Module Circuits (cont'd)

<p><b>ECG1437</b> 24-Pin DIP See Fig. L122 IC-VIR Signal Processor, <math>V_{cc1}=12\text{ V Typ}</math>, <math>V_{cc2}=5.1\text{ V Typ}</math></p> <table border="0"> <tr><td>Y-SIGNAL IN</td><td>1</td><td>24</td><td>SYNC IN</td></tr> <tr><td>VIR SW</td><td>2</td><td>23</td><td>SYNC AMP OUT</td></tr> <tr><td>Y-AMP OUT</td><td>3</td><td>22</td><td>THRESHOLD CKT IN</td></tr> <tr><td>VIR IND OUT</td><td>4</td><td>21</td><td>GROUND</td></tr> <tr><td>HORIZ BLANK IN</td><td>5</td><td>20</td><td>COLOR CTRL OUT</td></tr> <tr><td>VERT BLANK IN</td><td>6</td><td>19</td><td>CHROMA FILTER</td></tr> <tr><td>VCC 1</td><td>7</td><td>18</td><td>MAN COLOR CTRL</td></tr> <tr><td>TINT CTRL OUT</td><td>8</td><td>17</td><td>VCC 2</td></tr> <tr><td>TINT PREF IN</td><td>9</td><td>16</td><td>CHROMA HOLD FILTER</td></tr> <tr><td>TINT FILTER</td><td>10</td><td>15</td><td>Y+(B-Y) IN</td></tr> <tr><td>MAN TINT CTRL</td><td>11</td><td>14</td><td>TINT HOLD FILTER</td></tr> <tr><td></td><td>12</td><td>13</td><td>R-Y SIG IN</td></tr> </table>	Y-SIGNAL IN	1	24	SYNC IN	VIR SW	2	23	SYNC AMP OUT	Y-AMP OUT	3	22	THRESHOLD CKT IN	VIR IND OUT	4	21	GROUND	HORIZ BLANK IN	5	20	COLOR CTRL OUT	VERT BLANK IN	6	19	CHROMA FILTER	VCC 1	7	18	MAN COLOR CTRL	TINT CTRL OUT	8	17	VCC 2	TINT PREF IN	9	16	CHROMA HOLD FILTER	TINT FILTER	10	15	Y+(B-Y) IN	MAN TINT CTRL	11	14	TINT HOLD FILTER		12	13	R-Y SIG IN	<p><b>ECG1438</b> 16-Pin ZIL See Fig. L47 IC-Audio Tape Program Selector, <math>V_{cc}=6\text{ V Typ}</math></p> <table border="0"> <tr><td>MIX AMP IN 1</td><td>1</td><td>16</td><td>VCC</td></tr> <tr><td>MIX AMP IN 2</td><td>2</td><td></td><td></td></tr> <tr><td>MIX AMP OUT</td><td>3</td><td></td><td></td></tr> <tr><td>LIMITER AMP IN</td><td>4</td><td></td><td></td></tr> <tr><td>GROUND</td><td>5</td><td></td><td></td></tr> <tr><td>LIMITER AMP OUT</td><td>6</td><td></td><td></td></tr> <tr><td>RC CIRCUIT 1</td><td>7</td><td></td><td></td></tr> <tr><td>NOISE FILTER</td><td>8</td><td></td><td></td></tr> <tr><td>MUTING</td><td>9</td><td></td><td></td></tr> <tr><td>OUT ATTEN 1</td><td>10</td><td></td><td></td></tr> <tr><td>CONTROL IN</td><td>11</td><td></td><td></td></tr> <tr><td>OUT ATTEN 2</td><td>12</td><td></td><td></td></tr> <tr><td>RC CIRCUIT 2</td><td>13</td><td></td><td></td></tr> <tr><td>COLLECTOR OUT</td><td>14</td><td></td><td></td></tr> <tr><td>EMITTER OUT</td><td>15</td><td></td><td></td></tr> </table>	MIX AMP IN 1	1	16	VCC	MIX AMP IN 2	2			MIX AMP OUT	3			LIMITER AMP IN	4			GROUND	5			LIMITER AMP OUT	6			RC CIRCUIT 1	7			NOISE FILTER	8			MUTING	9			OUT ATTEN 1	10			CONTROL IN	11			OUT ATTEN 2	12			RC CIRCUIT 2	13			COLLECTOR OUT	14			EMITTER OUT	15			<p><b>ECG1439</b> 14-Pin DIP-ET See Fig. L140 IC-Dual Attenuator, <math>V_{cc}=12\text{ V Typ}</math></p> <table border="0"> <tr><td>CHAN 1 SIG IN</td><td>1</td><td>14</td><td>NC</td></tr> <tr><td>CHAN 1 FREQ COMP</td><td>2</td><td>13</td><td>CHAN 1 CTRL IN</td></tr> <tr><td>CHAN 1 OUTPUT</td><td>3</td><td>12</td><td>VCC</td></tr> <tr><td>GROUND</td><td>4</td><td>11</td><td>NC</td></tr> <tr><td>VCC</td><td>5</td><td>10</td><td>CHAN 2 OUTPUT</td></tr> <tr><td>CHAN 2 CTRL IN</td><td>6</td><td>9</td><td>CHAN 2 FREQ COMP</td></tr> <tr><td>NC</td><td>7</td><td>8</td><td>CHAN 2 SIG IN</td></tr> </table>	CHAN 1 SIG IN	1	14	NC	CHAN 1 FREQ COMP	2	13	CHAN 1 CTRL IN	CHAN 1 OUTPUT	3	12	VCC	GROUND	4	11	NC	VCC	5	10	CHAN 2 OUTPUT	CHAN 2 CTRL IN	6	9	CHAN 2 FREQ COMP	NC	7	8	CHAN 2 SIG IN
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<p><b>ECG1441</b> 16-Pin DIP See Fig. L111 IC-FM IF Amp, Limiter, Det, AF Amp, <math>V_{cc}=12\text{ V Typ}</math></p> <table border="0"> <tr><td>IF FRONT END INPUT</td><td>1</td><td>16</td><td>MUTE LEVEL ADJ</td></tr> <tr><td></td><td>2</td><td>15</td><td>DELAY AGC OUT</td></tr> <tr><td></td><td>3</td><td>14</td><td>GROUND</td></tr> <tr><td>GROUND</td><td>4</td><td>13</td><td>SIGNAL METER</td></tr> <tr><td>MUTE CTRL INPUT</td><td>5</td><td>12</td><td>MUTE OUT</td></tr> <tr><td>AF OUT</td><td>6</td><td>11</td><td>VCC</td></tr> <tr><td>AFC/TUNING OUT</td><td>7</td><td>10</td><td>QUADRATURE DETECTOR</td></tr> <tr><td>LIMITER OUT</td><td>8</td><td>9</td><td></td></tr> </table>	IF FRONT END INPUT	1	16	MUTE LEVEL ADJ		2	15	DELAY AGC OUT		3	14	GROUND	GROUND	4	13	SIGNAL METER	MUTE CTRL INPUT	5	12	MUTE OUT	AF OUT	6	11	VCC	AFC/TUNING OUT	7	10	QUADRATURE DETECTOR	LIMITER OUT	8	9		<p><b>ECG1442</b> 14-Pin DIP See Fig. L104 IC-Balanced Modulator, 10 MHz BW, <math>V_{cc}=12\text{ V Typ}</math></p> <table border="0"> <tr><td>BIAS/RESISTOR 1</td><td>1</td><td>14</td><td>CURRENT OUTPUT</td></tr> <tr><td>BIAS/BASE</td><td>2</td><td>13</td><td rowspan="2">BALANCE CONTROL</td></tr> <tr><td>GAIN/RESISTOR 1</td><td>3</td><td>12</td></tr> <tr><td>SIGNAL INPUT 1</td><td>4</td><td>11</td><td>GROUND</td></tr> <tr><td>CARRIER INPUT 1</td><td>5</td><td>10</td><td>SIGNAL INPUT 2</td></tr> <tr><td>CARRIER INPUT 2</td><td>6</td><td>9</td><td>GAIN/RESISTOR 2</td></tr> <tr><td>OUTPUT 1/VCC</td><td>7</td><td>8</td><td>OUTPUT 2/VCC</td></tr> </table>	BIAS/RESISTOR 1	1	14	CURRENT OUTPUT	BIAS/BASE	2	13	BALANCE CONTROL	GAIN/RESISTOR 1	3	12	SIGNAL INPUT 1	4	11	GROUND	CARRIER INPUT 1	5	10	SIGNAL INPUT 2	CARRIER INPUT 2	6	9	GAIN/RESISTOR 2	OUTPUT 1/VCC	7	8	OUTPUT 2/VCC																																																																														
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<p><b>ECG1443</b> 14-Pin DIP See Fig. L104 IC-TV Sound IF Amp, <math>V_{cc}=12\text{ V Typ}</math></p> <table border="0"> <tr><td>IF INPUT</td><td>1</td><td>14</td><td>AF DRV INPUT</td></tr> <tr><td></td><td>2</td><td>13</td><td>tone CTRL</td></tr> <tr><td>GROUND</td><td>3</td><td>12</td><td>AUDIO OUTPUT</td></tr> <tr><td>VOL CTRL</td><td>4</td><td>11</td><td>NC</td></tr> <tr><td>VCC</td><td>5</td><td>10</td><td rowspan="2">DET TANK CIRCUIT</td></tr> <tr><td>VOL CTRL</td><td>6</td><td>9</td></tr> <tr><td>DE-EMPHASIS</td><td>7</td><td>8</td><td>PREAMP OUTPUT</td></tr> </table>	IF INPUT	1	14	AF DRV INPUT		2	13	tone CTRL	GROUND	3	12	AUDIO OUTPUT	VOL CTRL	4	11	NC	VCC	5	10	DET TANK CIRCUIT	VOL CTRL	6	9	DE-EMPHASIS	7	8	PREAMP OUTPUT	<p><b>ECG1445</b> 22-Pin DIP See Fig. L121 IC-Horiz/Vert Osc, AFC, Sync Sep, <math>V_{cc}=12\text{ V Typ}</math></p> <table border="0"> <tr><td>VERT TRIG IN</td><td>1</td><td>22</td><td>VCC 1</td></tr> <tr><td>VERT HOLD</td><td>2</td><td>21</td><td>VIDEO IN</td></tr> <tr><td>BIAS CTRL</td><td>3</td><td>20</td><td>SYNC AMP OUT</td></tr> <tr><td rowspan="2">VERT DRIVER</td><td>IN 4</td><td>19</td><td>SYNC SEP IN</td></tr> <tr><td>OUT 5</td><td>18</td><td>TIME CONSTANT NET</td></tr> <tr><td>GROUND</td><td>6</td><td>17</td><td>SYNC SEP OUT</td></tr> <tr><td>BLANKING OUT</td><td>7</td><td>16</td><td>BURST GATE OUT</td></tr> <tr><td>X-RAY PROTECT IN</td><td>8</td><td>15</td><td>FLYBACK PULSE IN</td></tr> <tr><td>HORIZ OSC OUT</td><td>9</td><td>14</td><td>AFC OUT</td></tr> <tr><td>HORIZ HOLD</td><td>10</td><td>13</td><td>SAWTOOTH IN</td></tr> <tr><td>VCC 2</td><td>11</td><td>12</td><td>HORIZ SYNC IN</td></tr> </table>	VERT TRIG IN	1	22	VCC 1	VERT HOLD	2	21	VIDEO IN	BIAS CTRL	3	20	SYNC AMP OUT	VERT DRIVER	IN 4	19	SYNC SEP IN	OUT 5	18	TIME CONSTANT NET	GROUND	6	17	SYNC SEP OUT	BLANKING OUT	7	16	BURST GATE OUT	X-RAY PROTECT IN	8	15	FLYBACK PULSE IN	HORIZ OSC OUT	9	14	AFC OUT	HORIZ HOLD	10	13	SAWTOOTH IN	VCC 2	11	12	HORIZ SYNC IN																																																																			
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<p><b>ECG1446</b> 16-Pin DIP See Fig. L112 IC-VCR Servo Control, <math>V_{cc}=12\text{ V Typ}</math></p> <table border="0"> <tr><td>VCC</td><td>1</td><td>16</td><td>VIDEO AMP IN</td></tr> <tr><td rowspan="2">CONTROL SIGNAL AMP</td><td>2</td><td>15</td><td>VIDEO AMP OUT</td></tr> <tr><td>3</td><td>14</td><td>HORIZ SYNC IN</td></tr> <tr><td>GROUND</td><td>4</td><td>13</td><td>HORIZ SYNC OUT</td></tr> <tr><td>TRACK MONO IN</td><td>5</td><td>12</td><td>VERT SYNC IN</td></tr> <tr><td>TRACK MONO CAP</td><td>6</td><td>11</td><td>VCC</td></tr> <tr><td>TRACK ADJ</td><td>7</td><td>10</td><td>DELAY MONO CAP</td></tr> <tr><td>TRACK AMP OUT</td><td>8</td><td>9</td><td>CONTROL HEAD AMP OUT</td></tr> </table>	VCC	1	16	VIDEO AMP IN	CONTROL SIGNAL AMP	2	15	VIDEO AMP OUT	3	14	HORIZ SYNC IN	GROUND	4	13	HORIZ SYNC OUT	TRACK MONO IN	5	12	VERT SYNC IN	TRACK MONO CAP	6	11	VCC	TRACK ADJ	7	10	DELAY MONO CAP	TRACK AMP OUT	8	9	CONTROL HEAD AMP OUT	<p><b>ECG1447</b> 16-Pin DIP See Fig. L111 IC-FM Noise Canceller (Auto Ignition), <math>V_{cc}=12\text{ V Typ}</math></p> <table border="0"> <tr><td>INPUT</td><td>1</td><td>16</td><td>GROUND</td></tr> <tr><td rowspan="2">LOW PASS FILTER</td><td>2</td><td>15</td><td rowspan="2">HIGH PASS FILTER</td></tr> <tr><td>3</td><td>14</td></tr> <tr><td rowspan="2">LOW PASS AMP OUT</td><td>4</td><td>13</td><td rowspan="2">RC NETWORK</td></tr> <tr><td>5</td><td>12</td></tr> <tr><td>PILOT SIGNAL HOLD IN</td><td>6</td><td>11</td><td>NOISE DETECTOR</td></tr> <tr><td>PILOT SIGNAL OUTPUT</td><td>7</td><td>10</td><td>RC NETWORK</td></tr> <tr><td>PILOT SIGNAL 19 KHz FILTER</td><td>8</td><td>9</td><td>VCC</td></tr> </table>	INPUT	1	16	GROUND	LOW PASS FILTER	2	15	HIGH PASS FILTER	3	14	LOW PASS AMP OUT	4	13	RC NETWORK	5	12	PILOT SIGNAL HOLD IN	6	11	NOISE DETECTOR	PILOT SIGNAL OUTPUT	7	10	RC NETWORK	PILOT SIGNAL 19 KHz FILTER	8	9	VCC	<p><b>ECG1448</b> 9-Pin SIP See Fig. L41 IC-FM IF Amp, <math>V_{cc}=9\text{ V Typ}</math></p> <table border="0"> <tr><td>1ST IF INPUT</td><td>1</td></tr> <tr><td>BYPASS CAP</td><td>2</td></tr> <tr><td>TUNING METER</td><td>3</td></tr> <tr><td>2ND IF OUTPUT</td><td>4</td></tr> <tr><td>VCC</td><td>5</td></tr> <tr><td>3RD IF INPUT</td><td>6</td></tr> <tr><td>GROUND</td><td>7</td></tr> <tr><td>3RD IF OUTPUT</td><td>8</td></tr> <tr><td>BYPASS CAP</td><td>9</td></tr> </table>	1ST IF INPUT	1	BYPASS CAP	2	TUNING METER	3	2ND IF OUTPUT	4	VCC	5	3RD IF INPUT	6	GROUND	7	3RD IF OUTPUT	8	BYPASS CAP	9																																																											
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