

# 4 Contents of Activities

## 4.1

### Examples Of Environment-Friendly Products

When a new product is developed, it is compared with similar existing products to evaluate the environmental aspects and clarify the improvements that must be made.

The following environment-friendly products were developed in 2000

### 1

#### Base station equipment for public digital trunk radio

This is the base station equipment for a narrow-band digital trunk radio system for public sector. This new product conforms to the new digitization standard to use bandwidth efficiently and improve the service functions. The efficiency of the power supply unit has been improved, and the size of the product has been reduced by reviewing the mounting to achieve a lower resource and power consumption.



Conventional equipment (TR970)



Developed equipment (TR971/TR972)

Item No.	Environment item	Conventional equipment	Newly developed equipment	Reduction	
1	Function improvement	FDMA/SCPC system	TDMA system added to the FDCA/SCPC system		
2	Low power consumption	1,900 W	1,500 W	21% reduction	
3	Resource saving	Weight	197 kg	145 kg	26% reduction
		Capacity	595 (W) x 600 (D) x 1,800 (H)	550 (W) x 600 (D) x 1,350 (H)	30% reduction

FDMA : Frequency Division Multiple Access,  
SCPC : Single Channel Per Carrier,  
TDMA : Time Division Multiple Access

### 2

#### Cellular phone

A large, color liquid crystal display (LCD) screen is used to support i-mode services. Although the actual weight and volume of the developed phone are increased, the relative weight and volume against LCD screen size are decreased. Having more functions but the extensive use of energy saving technology has ensured low power consumption.



Conventional phone (KO208)



Developed phone (KO209i)

Item No.	Environment item	Conventional equipment	Newly developed equipment	Effects	
1	Function improvement	LCD screen	Monochrome 1.4-inch	256-color 1.64-inch	
		Communication function	Hyperlink Packet communication	i-mode, 4-chord melody added to the items on the left	
2	Low power consumption	Current consumption during continuous speech	253 mA (110 minutes)	243 mA (120 minutes)	10 minutes extended
		Standby current	1.56 mA (250 hours)	1.22 mA (350 hours)	100 hours extended
3	Resource saving	Weight	59 g	69 g	15% reduction of LCD area ratio
		Capacity	59 cc	70 cc	14% reduction of LCD area ratio
4	Environment preservation	Polyvinyl chloride accessory	Total waste disposal of polyvinyl chloride and polyethylene bags has been reduced.	Measures against dioxins.	

### 3

#### BS antenna



To increase the recyclable rate, the conventional composite of aluminum foil attached to the surface of a molded resin component has been replaced with a pressed aluminum plate.

All polystyrene foam packing materials have been abolished. We were awarded the Good Packaging Prize (electric equipment packaging section) at the Japan Packaging Contest for this action.

Item No.	Environment item	Conventional equipment	Newly developed equipment	Effects	
1	Reusable resources (recycling availability ratio)	Aluminum foil (37%) on the surface of ASA moldings	Pressed aluminum plate (63%)	70% improved	
2	Low power consumption	—	—		
3	Resource saving	Weight	4.1 kg	3.1 kg	24% reduction
		Polystyrene foam	260 g (packing material)	0 g	Total disposal



Conventional antenna BS-A45C



Developed antenna BS-A45D

### 4

#### Broadcast TV cameras

By reducing the number of substrates and parts and employing parts that consume low amounts of power, the power consumption was drastically reduced in each section the camera as well as the camera control units. These reductions greatly contribute to energy saving in use environments, for example, studio systems and broadcasting OB vans.



Newly developed SK-3300P

Item No.	Environment item	Conventional equipment	Newly developed equipment	Reduction	
1	Resource saving	Weight	5.9 kg	4.7 kg	20% reduction
		Volume	13.2 Little	7.8 Little	40% reduction
2	Low power consumption	Main Unit	55W	40W	27% reduction
		System	300W	150W	50% reduction

### 5

#### Vertical furnaces for manufacturing semiconductors

Vertical furnaces are used to produce semiconductor. The furnaces tend to consume more energy as the silicon wafer is increased.

To help conserve energy in clean rooms, we are working on ways to improve their heater efficiencies, reduce device sizes, and minimize the amount of floor space the furnaces occupy.

Item No.	Environment item	Conventional equipment [V-III (J2)]	Newly developed equipment [V-III (J3)]	Reduction
1	Function (wafer transport time)	100 (index)	66	34% reduction
2	Low power consumption (heater)	100 (index)	63	37% reduction
3	Energy saving (floor area)	4.05 m <sup>2</sup>	2.61 m <sup>2</sup>	35% reduction

